ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

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Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

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Environment and Natural Resources Committee
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

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The Committee would like to thank:
• Mr Fei Li for allowing his photo of a wind turbine at Wonthaggi, Victoria – to be reproduced on the front cover
• Solar Systems Pty Ltd for allowing a photo of the trial solar project at Bridgewater, Victoria – to be reproduced on the front cover
• Pacific Hydro for allowing photos of wind farms to be reproduced throughout the report

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Committee members

This inquiry was conducted during the term of the 56th Parliament.

The Members of the Environment and Natural Resources Committee are:

- Hon John Pandazopoulos, MP (Chair);
- Mr Craig Ingram, MP (Deputy Chair);
- Ms Joanne Duncan, MP;
- Mrs Christine Fyffe, MP;
- Ms Tammy Lobato, MP;
- Mrs Donna Petrovich, MLC;
- Mr Matthew Viney, MLC; and
- Mr Peter Walsh, MP.

Staff

For this inquiry, the Committee was supported by a secretariat comprising:

Executive Officer: Dr Caroline Williams
Research Officers: Mr Derek Benjamin (until September 2009)
Ms Tess Burton (July 2009 to February 2010)
Mr Tom Holden (December 2009 to February 2010)
Office Manager: Ms Karen Taylor
Terms of reference

That under section 33 of the Parliamentary Committees Act 2003, the following matters be referred to the joint investigatory committees specified:

To the Environment and Natural Resources Committee; for inquiry consideration and report no later than 31 December 2009 on opportunities to reduce red tape associated with the approvals process for renewable energy projects in Victoria; in particular the committee is asked to consider:

a. the major obstacles facing investors in large-scale renewable energy projects in Victoria, including environmental, planning and other regulations;

b. how Victoria compares to other Australian jurisdictions with regard to relevant approvals for renewable energy projects – in particular, wind farms as they are the most common form;

c. opportunities to reduce risk and delays for investors, whether that be through streamlining regulatory processes, appeals processes or other costs/risks;

d. the likely future drivers of renewable energy in Victoria, particularly in the context of the carbon pollution reduction scheme and the expanded federal renewable energy target;

e. other reviews and inquiries covering similar issues; this would include the Australian Energy Market Commission’s review of energy market frameworks in light of climate change policies and the Environment Protection and Heritage Council’s report on impediments to environmentally and socially responsible wind farm development.

Votes and Proceedings of the Legislative Assembly of Victoria, No. 102 – Thursday 4 December 2008

The reporting date was subsequently amended to 28 February 2010.¹

¹ Victorian Legislative Assembly, Parliamentary Debates (Hansard), Book 15, 24 November 2009, p.4067
Chair’s foreword

The daunting challenge posed by climate change has been recognised by former and current state and federal governments alike, with the setting of mandatory renewable energy targets. The expanded mandatory renewable target requires 20 per cent of energy to be derived from renewable sources by 2020. There is much work to be done in Victoria to fulfil such a target with renewables currently accounting for only 1.8 per cent of energy consumed.

There is a wealth of renewable energy sources readily available in Victoria. There are also promising signs of vast, previously untapped geothermal, solar and marine sources. At the same time there is strong community support and a sense of urgency to develop cleaner forms of energy.

Yet the renewable energy industry highlighted multiple obstacles to investment encountered through the planning approvals process for renewable energy projects in Victoria. Community and environment groups, local councils and planning and regulatory authorities also raised concerns about the current process.

The Committee has made 40 recommendations that it believes will strengthen the planning approvals process for renewable energy projects. The Committee has sought to find a balance between streamlining approvals processes whilst protecting the environment and the state’s Aboriginal cultural heritage as well as addressing the concerns of local communities.

On behalf of the Committee I would like to warmly thank the many people who contributed to the inquiry – assisting with site visits, providing evidence at public hearings and written submissions. The Committee drew heavily on this evidence in formulating recommendations and preparing its report to Parliament.

I would like to thank my colleagues for their active participation in the inquiry – Mr Craig Ingram, MP (Deputy Chair); Ms Joanne Duncan, MP; Mrs Christine Fyffe, MP; Ms Tammy Lobato, MP; Mrs Donna Petrovich, MLC; Mr Matt Viney, MLC; and Mr Peter Walsh, MP.

Finally I would like to thank the Secretariat staff for their advice and assistance provided throughout the inquiry.

Hon. John Pandazopoulos, MP

Chair
Executive summary

Chapter 1: Introduction

Victoria has a wealth of renewable resources, yet less than 2 per cent of the state’s primary energy consumption is derived from wind, biomass and hydroelectricity. There are significant opportunities to further develop renewable energy projects in Victoria, based on proven technology such as wind power, as well as emerging technologies such as geothermal, tidal and wave power. The Committee received the inquiry reference on the approvals process for renewable energy projects in Victoria in December 2008. The report focused on wind farms, as no other types of large-scale renewable energy projects have been approved and constructed to date.

Proponents raised concerns about the timeliness of key decisions made in the approvals process, delays created by the need for Cultural Heritage Management Plans prior to planning approval, accessing grid connections and difficulties obtaining native vegetation offsets. Proponents recommended better coordination between the various government departments and agencies involved in planning approvals and greater clarity regarding the scope and level of environmental assessments required.

Local councils advised that they do not currently have the capacity, expertise and resources to act as the responsible authority for wind farm projects of less than 30 megawatts. Councils identified the cumulative impacts of wind farms and monitoring and enforcement arrangements as significant issues. Community concerns created by wind farms were also examined by the Committee.

Chapter 2: Victoria’s renewable energy resources

Renewable energy accounts for a small fraction of total electricity generated in Victoria. The impact of falling water levels on hydroelectricity generation has translated into renewable energy production falling to 1.8 per cent of total electricity generated in Victoria, in 2009. The largest source of renewable energy in Victoria came from wind (35 per cent), followed by biomass (32 per cent) and hydroelectricity (32 per cent) in 2008. Geothermal, solar and tidal energy combined, account for less than 1 per cent.

Wind farms with a total capacity of 428 megawatts are currently operating in the south west of the state, South Gippsland and near Ballarat. Additional projects totalling three times that capacity have also been approved. Biomass, primarily firewood, is mainly used in Victoria for low cost space heating. The largest renewable generator in the state is Maryvale Mill which utilises the wood waste from the pulp mill. Hydroelectricity has traditionally been the main source of renewable energy in Victoria. The most recent hydroelectricity station commissioned was at Bogong in October 2009, with a capacity of 140 megawatts. The geothermal, solar and marine industries (tidal and wave), are in their infancy but have the potential to generate significant quantities of renewable energy.
Chapter 3: Policy and regulatory framework for renewable energy projects in Victoria

In examining the approvals process for, and the likely future drivers of, renewable energy projects in Victoria, the Committee was required to consider a complex, diverse and evolving regulatory and policy framework.

This chapter introduces the international, national and state policy context for renewable energy projects and outlines the policy settings and funding regimes that seek to stimulate investment in renewable energy at the State and Federal levels. It sets out key assessment processes for renewable energy projects in Victoria, focusing on planning and environmental approvals. It also provides an overview of the stationary energy sector and identifies Victoria's unique regulatory arrangements.

Key elements of policy and legislation impacting upon renewable energy projects in Victoria remained unresolved during the course of the inquiry, including the Federal Government's proposed emissions trading scheme and long-term energy policy at the State and Federal levels. The regulatory framework within which Victorian renewable energy projects operate was under revision. Reviews were being conducted into environmental regulation in Victoria, state-based wind farm guidelines, proposed national wind farm guidelines, Victorian planning legislation, the impact of federal climate change and renewable energy policies on energy market frameworks and the Federal Government's expanded Renewable Energy Target (RET) scheme.

Evidence provided to the Committee highlighted the expanded RET as providing the major impetus for investment in renewable energy through to 2020. However, it was generally agreed by stakeholders that the expanded RET scheme would favour the development of the wind industry, over other less developed or more costly renewable energy technologies. There was a general consensus in submissions to the inquiry that the Federal Government's proposed emissions trading scheme, the Carbon Pollution Reduction Scheme, had the potential to play a long term role in stimulating investment in renewable energy technologies, but would have limited impact in the short to medium term. In the Victorian context, the State Government provides Energy Technology Innovation Strategy grants for renewable technologies and has allocated $50 million to build a solar photovoltaic plant in the north west of the State.

Chapter 4: Other jurisdictions

The Committee investigated two types of renewable energy project approvals processes in response to the second term of reference. It examined the predominantly council based process in South Australia and the more centralised department of planning approach of New South Wales. The peak renewable energy industry association regards Victoria as the most difficult jurisdiction in which to obtain development approval for wind farms.

The South Australian Government is more aggressive in its promotion of renewable energy than the Victorian Government. In June 2009, the South Australian Government increased the State's renewable energy target to 33 per cent by 2020, such that it is higher than the national expanded Renewable Energy Target of 20 per cent renewable energy by the same date. The South Australian Government created the RenewablesSA Board to provide a high-level and integrated approach to renewable energy investment in the state. The South Australian Government has also initiated a
high-profile strategic planning process with respect to its transmission system in order to open up the Eyre Peninsula for wind power generation.

The Committee concluded that the New South Wales approvals process is more integrated than the Victorian one. Proponents are provided with early advice on requirements for the granting of planning approvals. Designated project managers have recently been appointed within the NSW Department of Planning to facilitate renewable energy projects. An ambitious target has been set for the processing of applications – within four months. The Committee was advised that the environmental assessment relating to projects, including renewable energy projects is more rigorous in NSW as a result of being integrated into the planning framework. Wind farm proponents indicated a preference for the NSW process for connecting to the distribution grid.

Chapter 5: The planning approvals process

Delays in key decisions being made in the approvals process impact on the investment decisions of the wind industry. The Committee calculated that it takes 4½ – 31 months for the Minister for Planning to approve wind farm applications in Victoria and between 8½ – 51 months for local councils and/or the Victorian Civil and Administrative Tribunal. In comparison, the average time taken in New South Wales is 7 months and 5–6 months in South Australia. The Committee has recommended that statutory deadlines be introduced to improve the timeliness of decision making in relation to wind farms.

The Committee concluded that the current 30 megawatt threshold that demarcates responsibility for wind farm applications between the Minister for Planning and local councils is outdated and increases the complexity of the approvals process. Local councils advised that they currently do not have the capacity, expertise and resources to act as the responsible authority for wind farm projects. Consequently the Committee has recommended that the Minister for Planning be the responsible authority for all wind energy facilities including the subsequent monitoring and enforcement of planning provisions. Local councils are currently responsible for all monitoring and enforcement regardless of the size of wind farm projects in Victoria.

Evidence to the inquiry highlighted the need for better coordination between decision making agencies and the accountability of state government departments involved in the planning approvals process. The Committee has recommended that a departmental Project Manager be appointed to oversee each renewable energy facility project. It has also recommended that a Technical Reference Group be established and integrated into the assessment process for all renewable energy facilities.

The role of planning panels was criticised by some proponents and community members. However the Committee concluded that planning panels allow the community to express their views on wind farm applications in a direct and immediate way. The planning panel process could be significantly streamlined in three ways – with the application of standard development approval conditions, wind farm experts being appointed to planning panels and the publication of planning decisions and benchmarks set by planning panels on wind farm projects.

Both proponents and local councils identified the need for greater policy guidance on evaluating the cumulative impacts of multiple wind farms as well as other major developments. The Committee has recommended that the Department of Planning and Community Development develop strategic regional plans to assist local councils and communities manage such cumulative impacts.
Chapter 6: Community consultation and the social impacts of wind farms

The construction of wind farms in Victoria and other Australian jurisdictions has elicited passionate and contrasting responses from the community. Community groups and individuals outlined their concerns to the Committee, including the impact of turbines on property values and the health of people and livestock.

Local councils highlighted both the negative and positive impacts of wind farms on their area. Although investment in the region was welcome, the projects also impacted on local tourist industries, created accommodation shortages and social tension.

The Committee recommended that community led approaches to identifying suitable sites for wind farms and the establishment of community engagement committees may address some of the negative social and economic impacts of wind farm developments. The Committee recommended that the Sustainability Victoria publication *Wind energy: myths and facts* be revised based on local experiences of wind farms and current research; and widely distributed to dispel some of the myths that are perpetuated by wind farm opponents. The Committee also recommended that the *Policy and planning guidelines for development of wind energy facilities in Victoria* identify issues that are exempt from consideration by Planning Panels including greenhouse gas abatement and the efficiency of the technology.

Chapter 7: Aboriginal cultural heritage

Victoria’s *Aboriginal Heritage Act 2006* was identified by members of the wind industry as an obstacle for investors in renewable energy projects. While some wind farm companies described the Act as ‘inflexible’, an Aboriginal party described it as ‘very good’ as it provides ‘certainty’ for all parties.

Wind farm developments will often require the preparation of a Cultural Heritage Management Plan (CHMP) under the Aboriginal Heritage Act. Issues raised by proponents with the Committee primarily related to the CHMP framework and the requirement that a CHMP must be approved before a planning permit can be issued. According to members of the wind farm industry, CHMPs must be finalised too early in the approvals process, before detailed plans of a wind farm development are complete.

The Committee noted that integrating Aboriginal cultural heritage considerations into the initial stages of project planning is consistent with a best practice approach to protecting Indigenous heritage. However, the Committee was also concerned that the current framework, in which detailed wind farm designs are only produced after a CHMP has been approved, may result in little clarity for proponents, Aboriginal parties or government as to the likely dimensions of a wind farm project – and therefore its impacts on cultural heritage.

The Committee recommends that the CHMP framework should be amended to incorporate a two-part approach for the wind farm industry. In order for a planning permit to be granted, an initial heritage assessment would be mandatory, as well as consultation with Registered Aboriginal Parties or Indigenous parties, who have traditional or family links to Aboriginal cultural heritage in the relevant area. An approved CHMP, if necessary, would be required later in the process, prior to the commencement of construction. Under this approach, a preliminary heritage assessment and
consultation with Aboriginal parties would occur at the commencement of the planning process in order to integrate Aboriginal cultural heritage into the planning process as a site constraint. However, more detailed assessments, the formulation of recommendations, a management regime and contingency planning would occur once detailed project plans were available.

Chapter 8: The environmental assessment process

In response to part (a) and part (c) of the terms of the reference, the Committee investigated issues associated with the assessment of the environmental impacts of renewable energy projects. In particular, the Committee investigated issues associated with the Environment Effects Statement (EES) process, the native vegetation and flora and fauna approval processes, and the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC) process. The Committee acknowledges the number of inquiries and reviews at both a State and Federal level that are either currently underway or have been recently completed with implications for these issues.

The Committee heard divergent views on these issues. Many proponents argued that environmental regulations are becoming more stringent, onerous and costly to comply with, and raised several concerns regarding the implementation of regulations, particularly in relation to native vegetation offsets. Community groups argued that environmental regulations are failing to adequately address their concerns regarding wind farm projects, and raised concerns about the adequacy of environmental assessments. Councils highlighted perceived inefficiencies and a lack of coordination between the various environmental approvals processes associated with wind farm projects.

The Committee heard a number of criticisms of the EES process, including that the process adds to an already complex approvals process, is overly discretionary, and lacks clarity and certainty. In particular, the Committee concluded that the EES process needs to provide much clearer guidance on when an EES is required and the scope and level of assessment required in each case. The Committee is currently inquiring into the EES process, which will provide an opportunity to further consider such guidance. The Committee recommended that the Victorian Government incorporate a tiered assessment process into the EES process. Clear guidance should be provided on the level of detail of assessments and the assessment standards and methodologies that apply to each tier.

There were significant implementation problems with the Native Vegetation Management Framework (NVMF) according to many proponents. The Committee concluded that most of these problems were associated with the offset process. The Committee emphasised that native vegetation should be seen as a significant site constraint and that the issues raised by proponents, such as time delays in finding offsets, will only arise if proponents cannot avoid clearing in the first instance. However, the Committee acknowledged that if clearing has been deemed acceptable under the NVMF, the issues raised by proponents are legitimate and should be addressed. The Committee sees merit in some of the recommendations of the Victorian Competition and Efficiency Commission that aim to address implementation issues, but has concerns about the recommendation to extend the use of offsets on public land reserved primarily for nature conservation. The Committee recommended that the Victorian Government further investigate the concept of establishing ‘offset reserves’ on a regional basis and using BushBroker franchises to expand the supply of offsets as a matter of urgency. The Committee also recommended that the government investigate the NSW BioBanking scheme, particularly in relation to any measures that could address delays in finding offsets while ensuring the protection of native vegetation.
A number of community groups raised concerns about the adequacy of environmental assessments for wind farm projects. The Committee believes that there is likely to be both perceived and real issues associated with the adequacy of assessments undertaken for renewable energy projects. The Committee concluded that the quality of the decision making process associated with the approval of these projects is highly reliant on the quality of the work of environmental consultants. The Committee made a number of recommendations to address the adequacy of environmental assessments.

The Committee was advised of two separate issues in relation to the approvals process for renewable energy projects under the EPBC Act (Cth). Some proponents argued that the EPBC Act allows third parties to apply to the Federal Environment Minister to reconsider a matter that has previously been determined, which creates significant delays, while the Environment Defenders Office argued that the ‘assessment bilateral’ agreement process has failed to create a higher standard of impact assessment in Victoria. The Committee concluded that the provisions of the EPBC Act that allow the Federal Environment Minister to reconsider a decision about whether an action is a ‘controlled action’ are appropriate and are unlikely to substantially affect the approval process for renewable energy projects. The Independent Review of the EPBC Act made a number of recommendations to address the second issue. The Committee agreed in principle with the recommendations of the Independent Review and noted that the current inquiry into the EES process in Victoria will provide a greater opportunity for the Committee to analyse and make recommendations in relation to the ‘assessment bilateral’ arrangements that apply to Victoria.

Chapter 9: Connecting to the transmission and distribution network

In investigating the process for connecting renewable energy generators to the electricity network, the Committee found that access to the grid is a major constraint for investment in renewable energy.

Victoria’s transmission and distribution network was designed prior to renewable energy generation. The Victorian grid was constructed in order to transport electricity from large centralised coal-fired power stations over long distances to major centres of customer demand. As a consequence, renewable energy generators encounter a number of obstacles in attempting to connect to the grid, including an absence of transmission infrastructure in resource-rich areas and a lack of flexibility in the network to accommodate the variability of some forms of renewable energy. One possible solution is the introduction of ‘smart grid’ technology, which has the potential to make the grid less centralised and more responsive to changes in electricity supply, enabling the incorporation of greater volumes of renewable energy into the network.

In addition to changes in the physical nature of Victoria’s electricity infrastructure, reform of the current regulatory and institutional framework is required in order to encourage increased investment in renewable energy. Victoria’s electricity sector is part of the National Electricity Market (NEM), a wholesale market for the supply of electricity to retailers and end-users across the eastern seaboard. The current objective of the NEM does not incorporate a reference to ‘environmental sustainability’. The Committee concluded that inclusion of environmental considerations in the NEM objective will enable environmental sustainability to be addressed by the institutions governing the market, the national planning body, governments and regulators as a central aspect of their decision making.
The Committee concluded that many of the obstacles to grid connection identified during the inquiry are indicative of broader systemic issues within the stationary energy sector. Renewable energy generators have to negotiate connections to the electricity network with network service providers (NSPs). A number of the issues raised by renewable energy generators with the Committee stemmed from the nature of NSPs as being risk-averse natural monopolies that derive the majority of their income from enhancing their network infrastructure. Issues identified by renewable energy proponents included perceptions of a lack of transparency, power imbalances and information asymmetries in their relationship with NSPs. A number of renewable energy proponents acknowledged that the issues they had identified are intractable because they are inherent in the structure of Victoria’s electricity sector.

The process of negotiating connection to the transmission and distribution network is unnecessarily complicated, costly and lengthy. Victoria’s transmission planner, the Australian Energy Market Operator (AEMO) has recently introduced more flexibility into the process for connecting to the transmission network. The Committee concluded that there is value in investigating similar approaches to distribution network connections, as this could provide renewable energy generators with a greater capacity to evaluate the information they are given and to influence the timeframes for their connection to the grid.

Since the 1990s, the Victorian Government has been engaged in a reform process driven by a philosophy of maximising efficiency by reducing the involvement of the State and increasing the role of the market in electricity supply decisions. Rather than directly managing energy monopolies, the Government now sees its role as setting policy objectives on behalf of the community and managing the framework of the electricity market. Unlike other States, Victoria’s transmission system is planned by an independent planner, the Australian Energy Market Operator (AEMO). However, the Committee concluded that despite the privatised nature of Victoria’s electricity sector, there is capacity for the Department of Primary Industries to take a more active role in relation to planning for new network infrastructure for renewable energy at both the statewide and individual project levels.

Chapter 10: Emerging renewable energy technologies

There is significant potential in Victoria for the generation of renewable energy from a range of sources, other than wind, including geothermal, marine, solar and biomass. Renewable energy technologies, other than wind, are generally at the formative stage in Victoria, and therefore the regulatory framework for such projects is evolving and in some cases has not been established.

There are additional financial risks associated with emerging renewable technologies, which increase investment uncertainty for the industry. The inquiry received evidence that the expanded Renewable Energy Target scheme is unlikely to be sufficient to stimulate the requisite investment in emerging renewable energy sources such as solar and geothermal, at least in the short to medium term.

Representatives of the emerging renewable energy sector informed the Committee that government departments were generally supportive of their projects, but that in comparison with some other States, there was an absence of ‘champions’ for emerging renewable energy industries within the administration. Representatives from government departments agreed with the proposition that increased leadership capability and senior attention to complex planning issues within government would be beneficial.
The Committee concluded that more could be done to proactively identify and address emerging policy and planning issues in relation to projects in the emerging renewable energy sector. The Committee recommends that an emerging renewable energy technologies expert panel consisting of senior departmental representatives, industry and local government be formed to investigate industry-specific regulatory requirements for emerging developments. If this investigatory work is undertaken while projects are at the exploration and feasibility stages, it could significantly reduce the extended processing times that typically apply when regulators encounter new and unfamiliar forms of development.

Unlike some other forms of renewable energy, technologies for producing energy from biomass have already been established. However, a key challenge for the bioenergy industry is the current absence of national and State policies that include concrete plans for exploring its potential. In addition, the potential of bioenergy is not being realised by existing policies because they do not value heat as a form of energy. The Committee recommends that Victoria’s Future Energy Statement should include a commitment to developing a bioenergy strategy that would appropriately value thermal energy and address impediments to, and realise opportunities for, the uptake of bioenergy in Victoria.
Recommendations

Chapter 5: The planning approvals process

RECOMMENDATION 5.1
Planning Panels be required to produce reports on renewable energy projects for the Planning Minister within 90 days of the first panel hearing. Page 115

RECOMMENDATION 5.2
The Planning Minister make a decision on the planning application for a renewable energy project within 90 days of receiving a Planning Panel report. Page 115

RECOMMENDATION 5.3
The Department of Primary Industries in consultation with industry and other relevant agencies, formulate time frames for key decisions in relation to renewable energy project applications including:

(a) the appointment of a panel and hearing dates;

(b) Referral Authorities making a decision on secondary consents. For example, for the Department of Sustainability and Environment to approve a Native Vegetation Management Plan and a Vegetation Offset Management Plan; and

(c) the Minister determining requests for secondary consent. Page 116

RECOMMENDATION 5.4
The Department of Primary Industries provide information on its wind farm website to enable proponents, the community, local government, government departments and local businesses to track the status of an application. Individual renewable energy project applications should be allocated a departmental Project Manager and their contact details should also be available on the website. Page 116

RECOMMENDATION 5.5
The Minister for Planning be the Responsible Authority for all commercial wind energy facilities. Page 119

RECOMMENDATION 5.6
A departmental Project Manager be appointed to each renewable energy facility project. Page 121
RECOMMENDATION 5.7
A Technical Reference Group be established and integrated into the assessment process for all renewable energy facilities.  

Page 121

RECOMMENDATION 5.8
Key stakeholders, including local government, should be consulted as part of the development, review and reform of renewable energy policy and regulation in Victoria.  

Page 123

RECOMMENDATION 5.9
Standard development approval conditions should be developed by the Department of Planning and Community Development for permit applications for renewable energy facilities. The conditions should be developed in consultation with local government, the renewable energy industry and the community. The conditions would not preclude the application of additional policies developed by local government on renewable energy facilities.  

Page 125

RECOMMENDATION 5.10
Planning Panels Victoria form a small team of members with substantial expertise in considering wind farm applications. The composition, qualifications and experience of the team should be set out on the Planning Panels Victoria website.  

Page 129

RECOMMENDATION 5.11
Planning Panels Victoria document and publish the planning principles that have been developed and benchmarks set by panels on wind farm projects including bird and bat kills, shadow flicker, noise, electromagnetic interference, land values, the effectiveness of greenhouse gas abatement and landscape value impact.  

Page 129

RECOMMENDATION 5.12
The Minister for Planning be responsible for the monitoring and enforcement of conditions set out in all wind farm permits and post development plans.  

Page 131

RECOMMENDATION 5.13
Detailed guidelines on the cumulative impact of renewable energy facilities should be developed as part of the standard development approval conditions (see recommendation 5.9).  

Page 132

RECOMMENDATION 5.14
Strategic regional plans should be developed by the Department of Planning and Community Development to assist local councils and communities manage the cumulative impacts of multiple, concurrent major developments, including wind energy facilities.  

Page 132
Chapter 6: Community consultation and the social impacts of wind farms

RECOMMENDATION 6.1
The Victorian Government evaluate and publish the outcomes of its 2006 Renewable Energy Action Plan objective to ‘build informed and engaged communities’. Page 139

RECOMMENDATION 6.2
The Sustainability Victoria publication Wind energy: myths and facts be revised to reflect local experiences of wind farms and widely distributed. Page 139

RECOMMENDATION 6.3
The Policy and planning guidelines for development of wind energy facilities in Victoria identify issues that are exempt from consideration by Planning Panels including greenhouse gas abatement and the efficiency of the technology. Page 151

RECOMMENDATION 6.4
The Department of Primary Industries investigate proactive, community led approaches to identifying suitable sites for wind farms and the findings be incorporated as an addendum to the wind farm atlas. Page 154

RECOMMENDATION 6.5
Regional Development Victoria fund local councils impacted by wind farm and renewable energy projects, to establish community engagement frameworks. Page 154

Chapter 7: Aboriginal cultural heritage

RECOMMENDATION 7.1
Aboriginal Affairs Victoria consult with the wind farm industry to foster a better understanding of the development and the implementation of Cultural Heritage Management Plans in the context of wind farms. Page 168
RECOMMENDATION 7.2
The Planning and Environment Act (1987) and Aboriginal Heritage Act (2006) should be amended such that, if a Cultural Heritage Management Plan is required for a wind farm project:
(a) Documented evidence of a heritage assessment by a Cultural Heritage Adviser and consultation with Registered Aboriginal Parties or Indigenous parties who have traditional or familial links to Aboriginal cultural heritage in the relevant area would be required as a condition of a planning permit application for a wind farm development; and
(b) The Cultural Heritage Management Plan would need to be approved prior to the commencement of construction.

Chapter 8: The environmental assessment process

RECOMMENDATION 8.1
A tiered assessment process should be incorporated into the Environment Effects Statement process. Clear guidance should be provided on the level of detail of assessments and the assessment standards and methodologies that apply to each tier.

RECOMMENDATION 8.2
The Victorian Government further investigate:
(a) the concept of establishing ‘offset reserves’ on a regional basis; and
(b) using BushBroker franchises to expand the supply of offsets as a matter of urgency.

RECOMMENDATION 8.3
The Victorian Government investigate the NSW BioBanking scheme, particularly in relation to any measures that could address implementation issues associated with time delays while ensuring the protection of native vegetation.

RECOMMENDATION 8.4
The Victorian Government should incorporate a provision in the Victorian Planning Provisions that require approval authorities to consider the Environment Protection and Heritage Council National Wind Farm Development Guidelines in assessing the adequacy of assessments for wind farm projects, subject to finalisation of the guidelines.

RECOMMENDATION 8.5
RECOMMENDATION 8.6
The Victorian Government should support the development of a national Code of Conduct for environmental consultants through the Council of Australian Governments in accordance with Recommendation 24 of the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999, or alternatively, develop a Victorian Code of Conduct, which should be made enforceable under an appropriate mechanism.

RECOMMENDATION 8.7
The Victorian Government should implement a system of random auditing of the adequacy of wind farm referrals and environmental assessments and the accuracy of predictions made in assessments. The results of the audits should be used to inform decisions in relation to enforcing the Code of Conduct as well as feed back into the improvement of the assessment process.

Chapter 9: Connecting to the transmission and distribution network

RECOMMENDATION 9.1
The Victorian Government through the Ministerial Council of Energy advocate for the National Electricity Market objective to be amended such that it reads: ‘to promote efficient investment in, and efficient use of electricity services for the long-term interests of consumers of electricity with respect to price, quality, reliability, security and environmental sustainability of supply of electricity and the reliability, safety, security and environmental sustainability of the national electricity system’.

RECOMMENDATION 9.2
A strategic long-term approach to planning and investment in transmission infrastructure for renewable energy projects should be adopted by the Department of Primary Industries. The Department of Primary Industries should inform the Ministerial Council on Energy and the Australian Energy Market Operator on what investments in transmission infrastructure would facilitate the uptake of renewable energy generation in Victoria.

RECOMMENDATION 9.3
The Department of Primary Industries identify and address obstacles experienced by generators of renewable energy connecting to the Victorian distribution network, including by investigating the following:

(a) requiring distribution network service providers to publish estimated costs for network augmentation in their annual planning reports;
(b) providing renewable energy proponents with the option of engaging third party engineering consultancies to undertake grid connection feasibility studies on their behalf; and
(c) enabling renewable energy proponents to act as the representative of distribution network service providers in project managing the augmentations to the network that their projects require.
RECOMMENDATION 9.4
The role of renewable energy departmental Project Managers should include active coordination with the Energy Sector Development Division of the Department of Primary Industries and the Australian Energy Market Operator, as well as regular communication with relevant network service providers to facilitate grid connections and to better integrate the grid connection planning approval processes.

Page 241

RECOMMENDATION 9.5
The Department of Primary Industries develop a strategy to facilitate the uptake of distributed energy generation in Victoria. The strategy should:

(a) address the various barriers relating to the connection of distributed power networks to the distribution grid;

(b) include studies of network constraints in areas where there is a high concentration of commercial and institutional development to assess the feasibility of grid connections to distributed power generators;

(c) include guidelines for scoping, installing, connecting and maintaining distributed generation for use by local governments, business and other organisations; and

(d) facilitate the planning of and investment in clusters of distributed generation in the electricity network.

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RECOMMENDATION 9.6
The Department of Primary Industries:

(a) investigate barriers, including regulatory barriers, to the development of smart grid technologies that would enable increased volumes of renewable energy to be accommodated by the electricity network; and

(b) develop a smart grid strategy to address any barriers to the development of smart grid infrastructure that would enable increased volumes of renewable energy to be incorporated into the Victorian electricity network.

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Chapter 10: Emerging renewable energy technologies

RECOMMENDATION 10.1
A Technical Reference Group and departmental Project Manager be appointed for all renewable energy planning applications, including emerging renewable energy technologies.

Page 256
RECOMMENDATION 10.2
An emerging renewable energy technologies expert panel consisting of senior departmental representatives, industry and local government be formed to investigate regulatory requirements for emerging renewable energy developments. The panel should examine issues including:
(a) water approvals for the geothermal industry;
(b) the coordination of approvals that are required by different government departments for marine energy projects; and
(c) the planning approvals process for the construction of geothermal power plants.  

RECOMMENDATION 10.3
The Victorian Government's Future Energy Statement should include a commitment to develop a bioenergy strategy that would:
(a) incorporate thermal energy; and
(b) address impediments to, and realise opportunities for, the uptake of bioenergy in Victoria.

RECOMMENDATION 10.4
The Department of Primary Industries coordinate an audit in 2010 of the feedstock from forestry operations that could be deployed to produce energy from biomass. The report should be published.

RECOMMENDATION 10.5
The Department of Primary Industries conduct a survey in 2010 of current practices for disposing of waste from timber and forestry operations.

RECOMMENDATION 10.6
The Department of Primary Industries conduct a survey in 2010 of existing thermal bioenergy users to determine a baseline measure of how the resource is currently being used in Victoria.
<table>
<thead>
<tr>
<th><strong>Glossary</strong></th>
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<tbody>
<tr>
<td>Bioenergy</td>
<td>Organic matter, or biomass, converted into heat and/or electricity and biofuels to generate electricity</td>
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<tr>
<td>Biomass</td>
<td>Biomass, a renewable energy source, is biological material derived from living, or recently living organisms, such as wood, waste, and alcohol fuels</td>
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<tr>
<td>Carbon Pollution</td>
<td>The Commonwealth Government’s emissions trading scheme</td>
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<tr>
<td>Reduction Scheme</td>
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<tr>
<td>Cogeneration</td>
<td>A method of using the heat that is produced as a by-product of electrical generation that would otherwise be wasted. The heat can be used for space heating of buildings or for industrial purposes</td>
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<tr>
<td>Distribution</td>
<td>The transport of low voltage electricity. This connects the transmission network with the majority of electricity consumers. The process is overseen by a distribution network service provider</td>
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<tr>
<td>Distributed generation</td>
<td>Any generator which connects directly to the distribution (low voltage) electricity grid rather than the transmission (high voltage) grid</td>
</tr>
<tr>
<td>Distribution Network</td>
<td>The owner of the physical network providing electricity at low voltage. Generally connects the transmission grid to the majority of consumers, although larger consumers may connect directly to the transmission grid. The DNSP may have some involvement in balancing the supply of electricity</td>
</tr>
<tr>
<td>Service Providers (DNSPs)</td>
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<tr>
<td>Emissions trading</td>
<td>A market based approach to reducing emissions. An ETS places a limit on emissions allowed from all sectors covered by the scheme. It allows those reducing greenhouse gas emissions to use trade excess emissions permits to offset emissions at another source</td>
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<tr>
<td>scheme (ETS)</td>
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<tr>
<td>eRET</td>
<td>Expanded Renewable Energy Target – see Renewable Energy Target</td>
</tr>
<tr>
<td>Generation</td>
<td>The production of electricity from other energy sources. This can include coal, oil, gas, nuclear fission, wind and waste combustion</td>
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</table>
Geothermal

Geo, meaning earth, and thermal, meaning heat, is a naturally occurring energy in the form of heat under the surface of the earth. This energy source can be only a few hundred metres below the surface in water that comes to the surface of the ground or in hot rocks thousands of metres below the surface. This energy originates deep within the earth’s crust.

Gigawatt hour

1000 megawatt hours

MRET

Mandatory Renewable Energy Target – see Renewable Energy Target

Megawatt (MW)

A unit of power equal to one million watts

Megawatt hour (MWh)

A unit of energy equal to the work done by one million watts acting for one hour

Monopoly

The situation wherein one company has the market power to control the price or availability of a good or service

Native vegetation

Plants like trees, shrubs, herbs and grasses that would have grown naturally in Victoria before European arrival. It does not include plants that originate from other parts of Australia or from other countries

Native vegetation offsets

An activity that improves native vegetation values at one site to compensate for the loss of values at another

Natural monopoly

A monopoly where the market can be served most cheaply by a single firm, rather than by a number of competitors. Most notable examples with regard to electricity are transmission and distribution networks

Plays

Term used by the geothermal industry for geothermal systems, for example: volcanic, sedimentary, hot wet rocks and hot dry rocks.

Renewable Energy

The use of energy from a source that does not result in the depletion of the earth’s resources, whether this is from a central or local source.
| **Renewable Energy Certificates (RECs)** | Are an electronic form of currency for each megawatt-hour of eligible renewable electricity generated or deemed to have been generated. RECs can be traded between registered persons or traded separately from the electricity market via the REC Registry. Certificates can be eventually surrendered to demonstrate liability compliance against the requirements of the Australian Government's mandatory renewable energy target or be voluntarily surrendered. |
| **Renewable Energy Target** | A national Renewable Energy Target scheme places a legal obligation on parties who buy wholesale electricity (retailers and large users) to source a certain percentage of their electricity purchases from renewables-based generation. The annual targets are legislated in gigawatt-hours of electricity. Liable parties can demonstrate compliance with the scheme by acquiring and surrendering to the scheme regulator tradeable renewable energy certificates created by accredited renewable energy generators. |
| **Stationary energy sector** | The production, supply and use of energy that is not transport related, including electricity and gas. |
| **Transmission** | The transport of high voltage electricity. This is achieved with a transmission network (or grid). Generally the network will connect large generators to lower voltage distribution networks where it will be transported to the majority of electricity consumers. |
| **Transmission Network Service Providers (TNSPs)** | The company which owns and maintains the transmission (high voltage) network, and which is responsible for balancing supply and demand in the electricity system. |
**Acronyms and abbreviations**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAV</td>
<td>Aboriginal Affairs Victoria</td>
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<td>AEMC</td>
<td>Australian Energy Market Commission</td>
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<td>AEMO</td>
<td>Australian Energy Market Operator</td>
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<td>AHA</td>
<td>Aboriginal Heritage Act 2006</td>
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<tr>
<td>CHMP</td>
<td>Cultural and Heritage Management Plans</td>
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<td>COAG</td>
<td>Council of Australian Governments</td>
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<td>CPRS</td>
<td>Carbon Pollution Reduction Scheme</td>
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<td>DEWHA</td>
<td>Department of the Environment, Water, Heritage and the Arts</td>
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<tr>
<td>DNSP</td>
<td>Distribution Network Service Providers</td>
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<td>DPCD</td>
<td>Department of Planning and Community Development</td>
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<td>DPI</td>
<td>Department of Primary Industries</td>
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<td>DSE</td>
<td>Department of Sustainability and Environment</td>
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<td>EDO</td>
<td>Environment Defenders Office</td>
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<td>EES</td>
<td>Environment Effects Statement</td>
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<td>EMP</td>
<td>Environmental Management Plan</td>
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<td>EPA</td>
<td>Environment Protection Authority</td>
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<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Act 1999 (Cth)</td>
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<td>EPHC</td>
<td>Environment Protection and Heritage Council</td>
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<td>ETIS</td>
<td>Energy Technology Innovation Strategy</td>
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<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>ETS</td>
<td>Emissions Trading Scheme</td>
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<td>EVC</td>
<td>Ecological Vegetation Class</td>
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<tr>
<td>GHG</td>
<td>Greenhouse gases</td>
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<td>GWh</td>
<td>Gigawatt hour</td>
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<tr>
<td>kV</td>
<td>Kilovolt or 1000 volts</td>
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<tr>
<td>MCE</td>
<td>Ministerial Council on Energy</td>
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<td>MRET</td>
<td>Mandatory Renewable Energy Target</td>
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<tr>
<td>MW</td>
<td>Megawatt</td>
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<tr>
<td>MWh</td>
<td>Megawatt hour</td>
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<tr>
<td>NAGA</td>
<td>Northern Alliance for Greenhouse Action</td>
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<tr>
<td>NEM</td>
<td>National Electricity Market</td>
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<tr>
<td>NVMF</td>
<td>Victoria’s Native Vegetation Management Framework</td>
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<td>NSP</td>
<td>Network Service Providers</td>
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<td>NTNDP</td>
<td>National Transmission Network Development Plan</td>
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<td>NTP</td>
<td>National Transmission Planner</td>
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<tr>
<td>OMP</td>
<td>Offset Management Program</td>
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<td>PPG</td>
<td>Policy and Planning Guidelines</td>
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<tr>
<td>PV</td>
<td>Photovoltaic</td>
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<td>RAP</td>
<td>Registered Aboriginal Party</td>
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<td>REAP</td>
<td>Victorian Government Renewable Energy Action Plan</td>
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<td>Acronym</td>
<td>Description</td>
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<tr>
<td>REC</td>
<td>Renewable Energy Certificate</td>
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<td>RET</td>
<td>Renewable Energy Target</td>
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<tr>
<td>SEO</td>
<td>Statement of Environmental Objectives</td>
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<td>SES</td>
<td>State Emergency Service</td>
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<tr>
<td>TNSP</td>
<td>Transmission Network Service Provider</td>
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<td>TRG</td>
<td>Technical Reference Group</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<tr>
<td>VCAT</td>
<td>Victorian Civil and Administrative Tribunal</td>
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<tr>
<td>VCEC</td>
<td>Victorian Competition and Efficiency Commission</td>
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<td>VECCI</td>
<td>Victorian Employers' Chamber of Commerce and Industry</td>
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<td>VPPs</td>
<td>Victorian Planning Provisions</td>
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<tr>
<td>VRET</td>
<td>Victorian Renewable Energy Target</td>
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Chapter 1: Introduction

Background to the inquiry

On 4 December 2008 the Environment and Natural Resources Committee received a reference under section 33 of the Parliamentary Committees Act 2003, on ‘opportunities to reduce red tape associated with the approvals process for renewable energy projects in Victoria’. In particular the Committee was asked to consider:

(a) the major obstacles facing investors in large-scale renewable energy projects in Victoria, including environmental, planning and other regulations;

(b) how Victoria compares to other Australian jurisdictions with regard to relevant approvals for renewable energy projects — in particular, wind farms as they are the most common form;

(c) opportunities to reduce risk and delays for investors, whether that be through streamlining regulatory processes, appeals processes or other costs/risks;

(d) the likely future drivers of renewable energy in Victoria, particularly in the context of the carbon pollution reduction scheme and the expanded federal renewable energy target; and

(e) other reviews and inquiries covering similar issues; this would include the Australian Energy Market Commission’s review of energy market frameworks in light of climate change policies and the Environment Protection and Heritage Council’s report on impediments to environmentally and socially responsible wind farm development.

The Committee was required to report to the Parliament by 31 December 2009. The reporting date was subsequently amended to 28 February 2010.

Victoria’s climate is changing. Climate change projections for Victoria indicate that the state will experience more frequent droughts and very high or extreme fire danger days; higher temperatures; and reductions in river and stream flows. To combat greenhouse gas emissions and climate change the Federal Government has recently adopted an expanded renewable energy target. The target is for 20 per cent of electricity to be generated from renewable sources by 2020. This builds on the targets established by previous federal and state governments.

Although Victoria has plentiful energy reserves, it still relies heavily on electricity from brown coal – the most greenhouse-polluting energy source in Australia. Victoria is endowed with a wealth of renewable energy resources. The state’s wind, solar and marine (wave and tidal) resources have been described as ‘world class’ by Sustainability Victoria. Less than 2 per cent of primary energy consumption currently comes from renewable energy resources in Victoria. There are significant

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2 Victorian Legislative Assembly, Parliamentary Debates (Hansard), Book 17, 4 December 2008, p.4921
3 Victorian Legislative Assembly, Parliamentary Debates (Hansard), Book 17, 4 December 2008, p.4921
4 Victorian Legislative Assembly, Parliamentary Debates (Hansard), Book 15, 24 November 2009, p.4067
opportunities to further develop Victoria’s renewable energy supply using both proven and emerging technologies.

Investors in large-scale wind farm projects in Victoria currently experience multiple obstacles to receiving planning approvals. The Committee was required to investigate such obstacles and opportunities to reduce risk and delays, whether through streamlining regulatory processes, appeals processes, or other costs/risks. In making its recommendations, the Committee sought to find a balance between a renewable energy approvals process that is streamlined yet robust, based on sound community consultation and support whilst protecting Aboriginal cultural heritage, as well as the local environment.

Scope of the inquiry

The main focus of this inquiry has been the approvals process for wind farm projects in Victoria. To date, no other types of large-scale renewable energy projects have been constructed and subject to an approvals process.

The inquiry did not investigate the use of small household-based renewable energy systems.

Inquiry process

The Committee advertised the terms of reference in national, Melbourne and regional Victorian newspapers in April 2009. Thirty-nine written submissions were received (see appendix 1).

The Committee was briefed by the Department of Primary Industries, Department of Planning and Community Development and Department of Sustainability and Environment. Three public hearings were held in Melbourne. Public hearings were also held in Ararat and Port Fairy, in regional Victoria. The Committee inspected the Challicum Hills wind farm at Ararat; and various wind farm sites near Yambuk, Cape Bridgewater and Cape Sir William Grant in southwest Victoria. Members of the Committee also toured the Keppel Prince wind tower manufacturing plant in Portland.

Meetings were held in Adelaide with key state government departments and geothermal industry representatives and in Melbourne with the NSW Department of Planning, to gain an understanding of how approvals processes for renewable energy projects are designed and implemented in other jurisdictions. Details of the briefings, hearings and site inspections are set out in Appendices 2 and 3.

During the course of the inquiry the Committee received valuable information from a wide range of sources. The sources included Landscape Guardian groups and concerned individual landholders; environmental organisations; state government departments; Australian and international wind farm proponents; local councils; indigenous groups; distributors; a wind turbine manufacturer; and marine and geothermal energy companies. The Committee would like to thank all of the participants in the inquiry for generously sharing their expertise.

A division took place during consideration of the draft report. The details are set out at the end of this report.
Chapter 1: Introduction

Issues raised during the inquiry

The key issues raised in submissions and at public hearings during the course of the inquiry include:

- the planning approval and environmental assessment processes for renewable energy projects in Victoria are complex – involving numerous government departments and agencies, sometimes concurrent processes, in a rapidly changing policy and regulatory environment. The associated suite of legislation has been aptly described to the Committee as a ‘maze’;

- despite a strong Government policy commitment to renewable energy, Victoria is the most difficult state in which to obtain development approval for wind farms, according to the peak renewable energy industry association;

- wind farm proponents raised concerns about the timeliness of key decisions made in the approvals process. Delays by Planning Panels in preparing wind farm reports and the Minister for Planning making a decision, after panel reports are submitted, were cited as examples;

- coordination between the many agencies and the accountability of state government departments involved in the planning approvals process requires significant development;

- local councils have an integral role in the approvals process for wind farms, whether they constitute the responsible authority or not. However local councils advised that they do not currently have the capacity, expertise and resources to act as the responsible authority for wind farm projects of less than 30 megawatts. Councils identified managing the cumulative impacts of wind farms and monitoring and enforcement arrangements as issues of significant concern;

- local communities’ responses to wind farms vary widely in Victoria, as in other jurisdictions. Community groups and individuals expressed concerns about the impact of turbines on property values; noise and health impacts; potential fire risk and the impact on livestock. Councils advised that wind farms have both positive and negative impacts on their area, with significant investment associated with the projects. However wind farms also impact on local tourist industries, create accommodation shortages and social tension, as is the case with other large infrastructure projects in regional areas;

- wind farm proponents advised that Cultural Heritage Management Plans lacked flexibility and created significant delays for their projects;

- there is a lack of clarity regarding the scope and level of environmental assessments required and triggers for environment effects statements in relation to wind farm projects which is problematic for both proponents and the community. The timeliness of decision making in relation to environmental assessments and implementing native vegetation offsets were identified as major obstacles for proponents;

- Victoria’s transmission and distribution network has not been designed to facilitate renewable energy generation. The renewable energy industry advised that the process for negotiating a connection to the network is complex, costly and time consuming. Proponents of distributed generation also experience systemic barriers to connecting to the distribution system; and

- approvals processes for technologies other than wind are less developed in Victoria and in some cases yet to be determined. Strategic planning to anticipate the approvals process for projects involving emerging renewable energy technologies, such as geothermal and marine developments, is required.
Inquiry report

Chapter one of this report has set out the terms of reference of the inquiry, its context and significance. The scope of the inquiry and inquiry process as well as key issues raised by witnesses and in written submissions, are discussed.

The energy generated from renewable resources in Victoria is examined in chapter two. The nature of the state’s extensive renewable energy resources – hydro, wind, bioenergy, geothermal, solar and marine – is also examined in chapter two.

Chapter three provides an overview of the international, national and state policy and legislative frameworks for the approvals process of renewable energy projects in Victoria. The four key stages in the planning approval and environmental assessment process for wind farms are explained. The approvals processes for other forms of renewable energy projects are in their infancy in Victoria. Geothermal energy approvals and other large renewable energy planning approval processes are discussed. The final section of the chapter provides an introduction to the regulation of Victoria’s energy sector.

The Committee examined the approvals process for wind farms and other renewable energy projects in South Australia and New South Wales. Its findings and the significance for Victoria’s framework are discussed in chapter four.

The approvals process for wind farms and its implementation in Victoria are examined in chapter five. Issues relating to the timeliness of decision making, demarcation of projects (above and below 30 megawatts) and the coordination, or lack thereof, between decision making authorities, are investigated. This chapter also examines the policy and planning guidelines, planning panels, monitoring and enforcement of permit conditions and cumulative impacts.

Chapter six of the report discusses local community consultation and the social impacts of wind farms. Local community attitudes to wind farms are discussed. The perspectives of wind farm opponents and proponents are explored in this chapter along with the evidence provided by local councils.

Wind farms and Aboriginal cultural heritage matters are examined in chapter seven.

Chapter eight focuses on the Environment Effects Statement process, native vegetation and flora and fauna; the adequacy of environmental assessment and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 process.

The extent to which the structure and operation of the energy sector inhibits investment in renewable energy in Victoria is examined in chapter nine. Strategic planning and investment towards a more environmentally sustainable grid are discussed. Connecting renewable generation and low emissions distributed energy generation to the grid, are also discussed. The final section of the chapter outlines the future of the transmission and distribution network: smart grids.

Chapter ten of the report examines key issues raised by representatives from emerging renewable industries active in Victoria and other parts of Australia.
Chapter 2: Victoria’s renewable energy resources

Introduction

Despite wide recognition of the urgent need to reduce carbon emissions, particularly in relation to the energy sector, renewable energy accounts for only a small percentage of Victoria’s energy production. The installed capacity of operating renewable energy projects by source is set out in figure 2.1. Hydroelectric power makes up the largest percentage – 56 per cent followed by wind (34 per cent), biomass (8 per cent) and geothermal (1.3 per cent). Total electricity installed capacity (the maximum rate at which power can be produced) in Victoria in 2008 was 9,290 megawatts. The renewable energy capacity component was approximately 1,151 megawatts.

Figure 2.1 Renewable energy – installed capacity of operating projects in Victoria (as at 22 October 2009)

Source: Sustainability Victoria, personal communication, 22 October 2009

6 Victorian Government, submission no.21, p.3
7 Victorian Government, submission no.21, p.3
Although the capacity represents approximately 10 per cent of total electricity, the amount of renewable energy actually produced ranges between 2 and 4 per cent. Renewable energy production is currently at 1.8 per cent due to the falling water levels in hydroelectric dams. As Ms Marianne Lourey, Executive Director of Energy Sector Development, Department of Primary Industries explained to the Committee:

The big issue with the numbers [percentage of renewable energy] at the moment is the drought. Much of our existing renewable energy generation is based on hydro generation. A couple of years ago our renewable energy generation was at about 4 per cent. Since then we have … had a number of new wind farms constructed in the state. If we had not had the drought, the number would be quite a bit higher than 4 per cent. As it is, it is 1.8 per cent. We have got a number of hydro generators that are unlikely to be operating for another few years at least, and obviously that depends on more rain coming in. That has impacted on figures over the last couple of years.

According to Sustainability Victoria data, wind was the largest source of renewable energy in Victoria, generating just over 656 GWh in 2008 (figure 2.2). This was approximately 36 per cent of all renewable energy generated in Victoria. Bioenergy and hydro accounted for 32 per cent and 31.7 per cent respectively.

Figure 2.2 Generated renewable energy in Victoria, 2008

Source: Sustainability Victoria, personal communication, 22 October 2009

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8 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

9 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
The following table sets out the five largest producers of renewable energy in Victoria in 2008.

**Table 2.3 Top five renewable stations by generation in Victoria in 2008**

<table>
<thead>
<tr>
<th>Power stations</th>
<th>Technology</th>
<th>Generation (MWh)</th>
<th>Generation growth on 2007 (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Maryvale Mill</td>
<td>Bioenergy</td>
<td>166,000</td>
<td>-8.0</td>
</tr>
<tr>
<td>2 Challicum Hills Wind Farm</td>
<td>Wind</td>
<td>139,000</td>
<td>-8.3</td>
</tr>
<tr>
<td>3 West Kiewa</td>
<td>Hydro</td>
<td>116,000</td>
<td>-0.7</td>
</tr>
<tr>
<td>4 Yambuk Wind Farm</td>
<td>Wind</td>
<td>86,000</td>
<td>-4.7</td>
</tr>
<tr>
<td>5 Springvale and Clayton Landfill Gas Power Plant</td>
<td>Bioenergy</td>
<td>86,000</td>
<td>114.6</td>
</tr>
</tbody>
</table>

Source: The Climate Group, Australian electricity generation report 2008: Victoria, New South Wales, Queensland and South Australia, Greenhouse indicator series, July 2009, p.10

Note: A megawatt hour is how much energy is produced by a one MW generator in one hour. For example a 320 MW generator will produce 320 MW in one hour and 640 in two hours. MWh = MW/hours

Victoria accounted for only 12 per cent of the renewable energy generated by Victoria, New South Wales, Queensland and South Australia in 2008.10

It is important to note that although Victoria has world class renewable resources, a number of additional factors determine the viability of projects including access to and capacity of the electricity grid; compatibility with and proximity to other land and water uses such as shipping channels and national and marine parks; and community and government support. The next section provides details of the state’s renewable resources and does not attempt to assess the resources in light of such determining factors.

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10 The Climate Group, July 2009, Australian electricity generation report 2008: Victoria, New South Wales, Queensland and South Australia, Greenhouse indicator series, p.8
Types of renewable energy in Victoria

Renewable energy generators operate across the state as illustrated in figure 2.4.

Figure 2.4 Renewable energy generators in Victoria

Wind

According to Sustainability Victoria, Victoria has access to world class wind resources. A Victorian wind atlas was released in 2003 to promote the resource. The atlas contains maps of the state’s wind resources and proximity to the electricity network. Wind resources by local government area are also detailed. The atlas states that across Victoria, the average wind speed is 6.5 metres per second. The windiest locations are along the coastline and following the Great Dividing Range as illustrated in figure 2.5. The significance of seemingly minor variations in wind speed to the viability of wind farms was explained by the Managing Director of NewEn Australia, Mr Ernst Weyhausen:

... the initial wind farms of course were built in Victoria along the coastline. The reason for that is there is more wind along the coastline, which makes the wind farm more economic. We all know that we should not go to the coast any more, but I would just like to point out that Victoria inland, in the Western District, has an average speed of around seven metres per second whilst at the coast it is eight metres, and the difference between these two wind speeds amounts to approximately 30 per cent of energy reduction and 30 per cent less energy inland versus the coast of course has a huge impact on the economic viability of a wind farm.\footnote{Mr E Weyhausen, Managing Director, NewEn Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.32}

The first wind farm in Victoria was commissioned at Codrington in 2001 with a capacity of 18 MW. According to the Victorian Government submission, the state now has a cumulative capacity of 428 MW of large scale wind power. Wind farms are currently operating in the south west of the state (Portland, near Ararat and Port Fairy), in South Gippsland (Wonthaggi and Toora) and Waubra (35 kilometres north west of Ballarat). Additional projects totalling 1,554 MW have been approved, as set out in figure 2.6. Numerous other projects are in the planning system.
South west Victoria is a renewable energy rich part of the state and contains the highest number of wind farms. Figure 2.7 illustrates the status of wind farm projects in the Barwon South West Region (Department of Planning and Community Development) as at 8 September 2009.
The focus of this inquiry has been on the approvals process for wind farms, as the technology is proven and amongst the most competitive forms of renewable energy in Victoria.

Bioenergy

Organic matter, or biomass, can be converted into heat and/or electricity and biofuels (to generate electricity or for transport) using a variety of technologies. Several materials can be used to generate bioenergy including:

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13 Victorian Government submission no.21, p.4
Bioenergy is the main form of renewable energy in several northern European countries. Mr Andrew Lang, board member of the World Bioenergy Association and Chairman of the SMARTimbers Cooperative advised the Committee that in Sweden and Finland about 28 per cent of the nations’ energy is currently derived from woody biomass. Other grades of biomass are also used – anaerobically fermented sewage and other wet organic products; straw and municipal solid waste. In the mid 2000s both Sweden and Denmark banned the placement of putrescible waste and dry flammable waste into landfill. As a result some municipal authorities derive biogas from sewage to fuel city bus fleets. Municipal solid waste, in a city like Jönköping in southern Sweden (population 125,000), is used to produce a third of the city’s electricity and half of its heat. Sweden’s target is for 39 per cent of its energy to be derived from biomass by 2020. By the end of 2010 China will have 40 straw-fired power plants with about 25 MW of electricity capacity.

Mr Lang outlined several benefits of bioenergy including:

- it is baseload, low emission, clean energy. It is far cheaper to generate than solar photovoltaic electricity;
- it adds value to existing waste streams and by-products of industry;
- there are environmental benefits, for instance if it is part of an expanded farm forestry industry, carbon is sequestered and the heat can also be utilised; and
- bioenergy plants can be located in residential and light industry zones as is the case in Scandinavia and have a relatively low site footprint and visual impact.

Currently biomass (in the form of firewood) is primarily used in Victoria for low cost space heating although there are a number of commercial applications totalling around 118 MW of capacity (figure 2.8).

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15 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.76
16 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.76–82; Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, tabled documents, 10 August 2009
17 Victorian Government submission no.21, p.4
Maryvale Mill and Springvale and Clayton landfill gas power plant were amongst the top five renewable power stations by generation in Victoria in 2008 (as illustrated in figure 2.3). The state’s largest renewable generator, Maryvale Mill, produced around 165,000 MWh in 2008 using wood waste from the pulp mills. The Committee was advised that there is significant potential for bioenergy production in Victoria, particularly regional areas. Mr Lang stated that:

> Victoria could significantly, rapidly and cost-effectively reduce its GHG [greenhouse gas] emissions by using the energy in agricultural residues, in forest harvest residues and timber processing waste, in municipal sorted flammable waste and putrescible, and in sewage and grey flows. There is also considerable but unrealised scope for using energy from short rotation crops such as oil mallee or other coppicing woody perennials. The combined energy from all this material could provide about 20 per cent of Victoria’s energy needs or about 2,000 MW by 2020 if state and federal emissions reduction policies assisted the process.

There has been some controversy relating to the use of native forest harvest waste and any other native forest material for energy as opposed to export. However, deriving energy from the waste stream is thought to have the most potential, according to Mr Lang. The Committee was advised that

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18 Since the Sustainability Victoria map was generated in June 2005, numerous small scale biomass generators (up to 4MW) have commenced operations
19 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.76–82
20 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, tabled document, *Improving the process for implementing lower emissions technology in Victoria*, 10 August 2009, p.1
the current practice in Victoria of capping landfills and then extracting the gas to drive motors is very inefficient. Furthermore Mr Lang advised that:

Here there is government pressure on local government to minimise landfill but we still have no battery recycling policy or deposit legislation and only limited separation at source for both household and commercial/industrial flammable wastes. Recyclables and toxic materials are still dumped into landfills. Capped landfills leak methane into surrounding housing. Landfill sites in regional cities are filled and no plan for the alternative. Landfill is often trucked considerable distances to other sites (Bendigo to Werribee) with payment of high gate charges on top of trucking costs. There is not good comprehension at all levels, including local governments and state planning departments, about the scope for using this material as a baseload source of energy, with a high level of filtering and flue gas treatment meaning that plants can be put within industrial zoned areas close to housing.\(^\text{21}\)

Alternatively coal-fired power stations could be co-fired with sawdust or wood flour advised Mr Lang:

... it is the most cost-effective way to reduce emissions. It costs virtually nothing; it is just a minor re-jigging of the feed system and then having that supply coming in on a regular basis. Hancock Victorian Plantations had something like 17,000 hectares of pine and blue gum plantations burnt in the bushfires. They are sitting and looking at this vast volume of burnt, unmerchantable material, but they have to clear off those sites in order to re-plant something like 100 tonnes to 150 tonnes per hectare if it is only middle maturity. All of that material has to be either burnt on the site with a vast release of carbon or cut and taken to the edge of the site, and then it is available for chipping in some way and transported off to become feed stock.\(^\text{22}\)

However there is no apparent policy to develop this option.\(^\text{23}\) Co-firing is being conducted in Poland, the United States and Canada of up to 30 per cent woody biomass. In Denmark, major coal-fired plants have been converted to be entirely fired by wood and straw pellets.

A feasibility study has been undertaken to determine how the Ballarat region could source between one third and one half of its energy needs from the biomass of the area – straw, woody biomass, and wet or dry municipal solid waste.\(^\text{24}\) A combined heat and power plant of 15 to 20 MW could supply electricity to approximately 5,000 households and heat to industry, hospitals, sports clubs and schools. Ethanol can be produced from straw.

Biomass has been described as the ‘hidden relative’ of the renewable energy sector and is often not included in the debate on renewable energy in Victoria. The Committee did not have the opportunity to investigate the potential of bioenergy in detail as part of its inquiry, nor to examine the relevant planning approvals processes. However it believes, from the limited evidence received that there is substantial potential that warrants further exploration as part of the process of developing and diversifying Victoria’s renewable energy supply. This issue is discussed in further detail in chapter 10.

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21 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, tabled document, Improving the process for implementing lower emissions technology in Victoria, 10 August 2009, p.3

22 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.77

23 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, tabled document, Improving the process for implementing lower emissions technology in Victoria, 10 August 2009, p.3

24 Mr A Lang, Chairman, SMARTimbers Cooperative, correspondence, received 8 October 2009 and SED Consulting for the Central Highlands Regional Bioenergy Working Group, Central Highlands Bioenergy Scoping Study and Biomass Audit, August 2009
Hydroelectricity

Hydroelectricity has historically been the main source of renewable energy in Victoria. A map of the state’s hydro generators is set out below (figure 2.9). There is approximately 760 MW of installed capacity in Victoria (table 2.10). Hydroelectricity is generated when the energy of flowing water is converted into electrical energy. Water turns a wheel, or turbine, which rotates a generator to produce electricity.

Figure 2.9 The location of hydro generators in Victoria


Table 2.10  

Hydro generators in Victoria: capacity and year commissioned

<table>
<thead>
<tr>
<th>Project name</th>
<th>Capacity (MW)</th>
<th>Year commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hume</td>
<td>29.0</td>
<td>1957</td>
</tr>
<tr>
<td>Thomson Dam</td>
<td>7.5</td>
<td>1989</td>
</tr>
<tr>
<td>Yarrawonga Weir</td>
<td>9.5</td>
<td>1994</td>
</tr>
<tr>
<td>Blue Rock Dam</td>
<td>3.6</td>
<td>1993</td>
</tr>
<tr>
<td>Cardinia Dam</td>
<td>3.0</td>
<td>1993</td>
</tr>
<tr>
<td>William Hovell</td>
<td>1.5</td>
<td>1994</td>
</tr>
<tr>
<td>Eildon Pondage</td>
<td>4.5</td>
<td>1994</td>
</tr>
<tr>
<td>Rubicon Scheme</td>
<td>13.0</td>
<td>1928</td>
</tr>
<tr>
<td>Cairn Curran</td>
<td>2.0</td>
<td>1960</td>
</tr>
<tr>
<td>Kiewa – Clover</td>
<td>29.0</td>
<td>1930</td>
</tr>
<tr>
<td>Kiewa – West Kiewa</td>
<td>62.0</td>
<td>1955</td>
</tr>
<tr>
<td>Kiewa – McKay Creek I &amp; II</td>
<td>150.0</td>
<td>1960</td>
</tr>
<tr>
<td>Eildon I &amp; II</td>
<td>135.0</td>
<td>1957 &amp; 2001</td>
</tr>
<tr>
<td>Dartmouth</td>
<td>150.0</td>
<td>1981</td>
</tr>
<tr>
<td>Bogong</td>
<td>140.0</td>
<td>2009</td>
</tr>
<tr>
<td>Banimboola (Dartmouth)</td>
<td>14.3</td>
<td>2005</td>
</tr>
<tr>
<td>Preston</td>
<td>2.0</td>
<td>2008</td>
</tr>
<tr>
<td>Silvan Dam</td>
<td>1.8</td>
<td>2009</td>
</tr>
</tbody>
</table>


The Victorian Government’s submission noted that there is limited additional potential for hydroelectricity as most viable sites have already been exploited and the government has a policy commitment to ‘no new dams’ because of the potential multiple environmental and economic impacts. Large scale hydroelectricity projects have been largely realised, however there are some opportunities according to Sustainability Victoria, to increase hydro generation in Australia through:

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26 Victorian Government, submission no.21, p.4
27 According to the Central Region Sustainable Water Strategy, ‘New dams do not create new water. They take water from rivers and downstream irrigators. They would also seriously impact on the health of rivers, to which the community wants more water returned to protect their sustainability’. Source: Department of Sustainability and Environment, 2006, Sustainable Water Strategy Central Region: Action to 2055, Victorian Government, Melbourne, p.65
• the refurbishment of existing plants and equipment; and
• the development of mini hydro (less than one megawatt) generation.28

For example the construction of a mini-hydro plant was recently completed at Silvan Reservoir, one of six mini-hydro plants built by Melbourne Water.29 A new 140 MW underground hydroelectricity station was commissioned at Bogong in October 2009. Climate change presents a material risk to the hydroelectricity industry not only in Victoria but also other parts of Australia as average long-term inflows to dams decline. Hydro Tasmania estimates that there has been a 1,000 GW hours decline in hydropower generated in Tasmania over the last ten years for this reason.30

Geothermal

Conventional geothermal energy has supplied power since 1904 in Tuscany, Italy.31 Such energy is traditionally associated with volcanoes, at the margins of tectonic plates. The energy is derived from high temperature rocks (above 180 degrees Celsius) with high permeability and extracted at a high rate in countries and regions such as New Zealand, the west coast of the USA, Philippines and Japan. Increasingly attention worldwide has turned to generating geothermal energy from lower temperatures and lower permeability resources, including in Australia. Geothermal resources with lower permeability are often called engineered geothermal systems or hot rocks. Companies such as Torrens Energy, Geodynamics and Petratherm are exploring such systems, in South Australia. A system which entails the pumping of cool water through hot fractured rocks and with water and energy extracted via a second well is being explored.

In the case of Victoria, hot sedimentary aquifer systems are being explored by companies including Panax, Hot Rocks Ltd and Green Rock Energy. Such systems involve extracting water from highly permeable rock but at lower temperatures, as low as 140 degrees Celsius. According to the government submission, there are significant exploration and development opportunities in geothermal energy in Victoria with potential geothermal energy sources having close proximity to the national electricity grid.32 However, geothermal energy technology is at a very early stage of development.33 Five companies were granted exploration permits in 2007 and there are currently seven companies exploring for geothermal energy in Victoria. The geothermal exploration permits cover 70 per cent of the state.34 A small (0.08 MW net) plant in Birdsville, Queensland is the only geothermal plant currently operating in Australia. Some direct use geothermal projects operate in Victoria including the Sebel Deep Blue hotel and convention centre and Midfield Meats abattoir in Warrnambool. The combined energy produced for these projects is 1 MW.35

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29 Melbourne Water, Renewable Energy Plant at Silvan Reservoir, media release, 21 August 2009
30 Mr K Thornton, Senior Policy Advisor, Hydro Tasmania, All-Energy Australia 09 conference, Melbourne, 7 October 2009, presentation slide
31 Dr G Beardsmore, Technical Director, Hot Dry Rocks Pty Ltd, All-Energy Australia 09 conference, Melbourne, 8 October 2009, presentation slide
32 Victorian Government submission no.21, p.4
33 Victorian Government submission no.21, p.4
34 Hon. P Batchelor MP, Minister for Energy and Resources, Search for hot rocks heats up in Ballarat, media release, 14 July 2009
35 Mr P Galloway, Managing Director, Syncline Energy Pty Ltd, All-Energy Australia 09 conference, Melbourne, 8 October 2009
The Australian Geothermal Energy Association (AGEA) provided the Committee with the following diagram that illustrates the different types of geothermal systems (figure 2.11)

**Figure 2.11**  Types of geothermal systems

![Types of geothermal systems diagram](image)

Source: Tabled by the Australian Geothermal Energy Association at the ENRC hearing on 28 September 2009

The AGEA described the types of geothermal systems that exist in Victoria:

> In Victoria there is an excellent resource for the hot sedimentary aquifer plays, where you are not going into the granite to engineer the underground heat exchange; you are working in shallower sedimentary sandstones, which are more permeable and a lower cost to develop. They are not necessarily as efficient in terms of their output, but the overall equation for a business case can still look very good, and that is what we are expecting in Victoria … 36

The difference between hot rocks and hot sedimentary aquifers was explained further by Mr Peter Reid, Exploration Manager of Petratherm:

> The hot sedimentary aquifer, the case is there that the sandstones already have natural permeability and porosity – that is, they naturally flow water and can hold water … There are spaces between the individual drains that allow water to pass through the rock. The advantage of hot sedimentary aquifers is that you do not need to fracture the rock. That is quite expensive and also very risky. Also the amount of heat transfer from the rock to the water is greatly enhanced if the rock already has natural permeability, because the fluid pathways are much better interconnected, whereas if you have just one fracture through a slab of rock, you may not get the heat stripped out of it evenly as you would through a hot sedimentary aquifer. One of the clear advantages of the Victorian play is that you have that capability, although they are at a lower temperature. The trade-off is because they allow high flow, you can actually pump much higher rates. The amount of power you generate is a combination of the heat of the water but also the volume of water that you generate. 37

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36 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.263

37 Mr P Reid, Exploration Manager, Petratherm, Environment and Natural Resources Committee public hearing - Adelaide, 28 September 2009, transcript of evidence, pp.264-265
Geothermal companies active in Australia follow different exploration and development models and no company has the same approach. 38 Hot Rock Ltd described the significance and potential of geothermal energy, in light of the Victorian Geothermal Energy Resources Act (2005): 39

… the potential for geothermal in Australia, and in Victoria in particular, is exciting. Never before have we been able to explore for it because there has been no legislation, and we have not had the price incentive which has now been set up by the MRET [Mandatory Renewable Energy Target] system, by the Commonwealth Government, and it is happening globally, so we are seeing a massive explosion of both exploration development worldwide in geothermal … Basically we [Hot Rock Ltd] are looking from Geelong through to the South Australian border. That is all our permits – 27,000 square kilometres. That is a massive area. We have powered infrastructure in that area and we have a lot of previous data that we have acquired from the oil and gas sector. That has probably put something like $50 million in front of the game and probably five years in front of selecting areas for development.

Hot Rock Ltd provided the Committee with details of one of its first flagship projects at Koroit, north west of Port Fairy. At Koroit, the company has discovered a geothermal reservoir with ‘commercial temperatures’ of greater than 140 celsius, 2.8 to 4 kilometres below the surface. The reservoir is estimated to contain sufficient geothermal energy to support a power plant with 100 MW gross generation capacity (100,000 typical Australian homes) and an inferred resource sufficient for a power plant of 1,100 MWe gross energy generation capacity (1 million homes). 40 The company describes the technology to be used at the Koroit site as follows:

The way this works is very simple. We mine hot water. All we do is drill water bores. They are very large and very deep, but they are only water bores. The heat is captured in the water. We bring the water to the surface. We put it through a power plant to produce steam to go across the turbine to turn a generator to make electrons to put that power into the transmission line … We would like to be very efficient and responsible in the way that we use the power that is left. Water comes in at, say, 150 degrees, and comes out the back end of the plant at about 80 degrees … When we get the water out the back end, we can apply that to other activities, like hothouses, and set up a whole new industry here in the district. It could assist with the milk industry, which uses a lot of energy for making powdered milk. You could already have that energy and instead of the water being 20 degrees, it is already 80 degrees; there is an energy saving. Because it is saltwater, it could actually be discharged into the ocean and used in fish farm applications. There are a lot of different applications. At the end of the day it gets re-injected back into the same aquifer. That is the plan at the moment. It is a complete cycle. 41

However key data, such as the flow rates from the aquifers must still be determined through the drilling of exploration wells in early 2010. 42 A feasibility study is expected to be completed by the end of 2010 with the possible development of the company’s first geothermal power plant in 2011. 43

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38 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing - Adelaide, 28 September 2009, transcript of evidence, p.265
39 Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.224
40 Hot Rock Ltd – ASX/Media Announcement, Koroit Project (Otway Basin) estimated to have an Inferred and Indicated Geothermal Resource of 67,000 PJ, 1 October 2009, pp.2–3. The indicated geothermal resource is estimated from direct temperature measurements within the geothermal reservoir in three petroleum wells over a volume of 47 kilometres. The inferred geothermal resource covers a volume of 340 kilometres and surrounds the indicated geothermal resource, where temperatures have been extrapolated.
41 Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.225
42 Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.225
Greenearth Energy aims to build the first grid connected geothermal plant in Australia.\textsuperscript{44} The company was awarded three geothermal exploration permits in May 2007 by the Victorian Government covering over 18,000 square kilometres.\textsuperscript{45} The permits are located in the Latrobe Valley/Gippsland area, and the Bellarine Peninsula/Surf Coast Shire/Geelong/Daylesford area. Its Geelong Geothermal Power Plant project has an estimated inferred resource equivalent to a baseload 140 MW plant operating for 30 years.\textsuperscript{46} A 12 MW demonstration plant is to be constructed using 180 degree celsius brine drawn from a hot sedimentary aquifer in the second half of 2010.\textsuperscript{47} The wells will be up to 4,000 metres deep. Greenearth Energy plans to connect the plant to the line from the Anglesea power station to supply local heavy industry and the Armstrong Creek residential development.

To facilitate the development of the geothermal industry, a Victorian Geothermal Assessment Report is being developed by the Energy Research Institute at the University of Melbourne and due for release in September 2010.\textsuperscript{48} The report will provide a full geophysical, technical, legal and economic assessment of the potential for geothermal energy in Victoria.\textsuperscript{49} The Victorian Minister for Energy and Resources made grants available in late 2009.\textsuperscript{50} Only one company – Geodynamics – has demonstrated ‘proof of concept’ in Australia to date, at Innamincka, South Australia.\textsuperscript{51} Proof of concept is when water is circulated between the injection and production wells for three months continuously in a closed loop, which equates to a successful project. Petratherm is expected to be the second geothermal company to prove concept in Australia in approximately 12 months time. The AGEA estimates that up to 2,200 MW of installed geothermal capacity can be built around the country – in South Australia, Victoria and potentially in Tasmania and NSW – by 2020, based on known policy settings.\textsuperscript{52}

Solar

There are two main ways of harnessing energy from the sun. The first is to produce steam, either with parabolic troughs or with a field of flat, computer guided mirrors called heliostats, that focus sunlight on a receiver on top of an enormous ‘power tower’. The second way is to convert sunlight directly into electricity with photovoltaic panels made of semiconductors such as silicon. According to a recent article in the National Geographic each approach has its advantages and disadvantages:

\textsuperscript{43} Hot Rock Ltd – ASX/Media Announcement, Koroit Project (Otway Basin) estimated to have an Inferred and Indicated Geothermal Resource of 67,000 PJ, 1 October 2009, p.2
\textsuperscript{44} Mr R MacRae, Geophysicist, Greenearth Energy Ltd, All-Energy Australia 09 conference, Melbourne, 8 October 2009
\textsuperscript{46} Greenearth Energy – ASX announcement and media release, Geelong Geothermal Power Project predicts substantial CO\textsubscript{2} displacement, 21 September 2009
\textsuperscript{47} Mr R MacRae, Geophysicist, Greenearth Energy Ltd, All-Energy Australia 09 conference, Melbourne, 8 October 2009
\textsuperscript{48} Professor M Sandiford, Interim Director, Melbourne Energy Institute, University of Melbourne, Resources Victoria Technical Forum, 19 August 2009
\textsuperscript{49} Energy Research Institute, University of Melbourne, Victorian geothermal assessment report: briefing paper, August 2009, p.1
\textsuperscript{50} Hon. Peter Batchelor MP, Minister for Energy and Resources, All-Energy Australia 09 conference, Melbourne, 7 October 2009
\textsuperscript{51} Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.266
\textsuperscript{52} Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.269
Right now steam generation, also known as concentrating solar or solar thermal, is more efficient than photovoltaic – a greater percentage of incoming sunlight is converted into electricity. But it requires acres of land and long transmission lines to bring the power to market. Photovoltaic panels can be placed on rooftops at the point where the power is needed. Both energy sources share an obvious drawback: they fade when it's cloudy and disappear at night. But engineers are already developing systems for storing the energy for use in the darker hours.  

According to Sustainability Victoria, the state has excellent solar resources, illustrated in figure 2.12. An atlas is being developed to assist proponents identifying suitable locations for solar projects and is expected to be released by October 2010. There are currently no large scale solar facilities operating in Australia. The largest plant operates in Adelaide with a capacity of 1 MW. Two solar parks each with a generating capacity of 0.3 MW have been constructed in Bendigo and Ballarat to educate the community about the viability of solar energy.

**Figure 2.12** Average yearly global solar exposure in Victoria  
(megajoules per square metre)

<table>
<thead>
<tr>
<th>Key: Average Yearly Global Solar Exposure (MJ/sq.m)</th>
</tr>
</thead>
</table>

The first large scale solar facility in Australia was planned to be built by the company Solar Systems, in northwest Victoria. The proposal was for the construction of a 154 MW facility, due to be completed in 2013. At a cost of $420 million, the facility was to be one of the largest and most efficient solar photovoltaic power stations in the world.\(^{55}\) It was expected to generate enough electricity for 45,000 homes. A research and development facility was opened at Bridgewater, near Bendigo in October 2008 to test the photovoltaic technology to be installed at the large power station. However the project, despite having the backing of a major utility was unable to attract the necessary private finance to continue operations. Federal and state government support ($125 million) was committed towards the project. A new buyer is being sought for the project. The Victorian Government has also announced funding of up to $100 million, based on matching commonwealth funding to attract another large scale solar power station. The Victorian Government has stated that large-scale solar is the most economical form of solar, which is why the government is providing funding to develop the technology.\(^{56}\)

The Commonwealth Government announced as part of the May 2009 Budget, $1.5 billion over six years to a Solar Flagships Program. The program was designed to provide funding to support construction and demonstrate large-scale solar power stations in Australia, which could include solar thermal, photovoltaic and energy storage technologies.\(^{57}\) The target size was four solar power stations with a total capacity of 1,000 MW (same as the average Australian coal-fired power station). A single solar flagship project manager was expected to manage the development and operation of the power stations as an integrated commercial enterprise by 2015. The program has subsequently been criticised as ‘poorly conceived, technically and strategically, and the funding did not match the scale of the ambition’.\(^{58}\) Industry representatives at the solar power systems session of the All-Energy Australia 09 conference in Melbourne concurred that the goals of the program were unrealistic and it was difficult to finance a non-commercial technology at such a large scale.\(^{59}\) One industry representative stated that depending on the technology employed, the capacity of the program would need to be halved given the funding on offer. The final guidelines for the program were released at the end of 2009.

In contrast, the solar thermal market is booming in Europe. 1,500 MW of solar thermal energy is installed annually in Germany alone.\(^{60}\) Projections developed by the European Solar Thermal Industry Federation (ESTIF) indicate that by 2050, solar thermal may supply 25 per cent of Europe’s energy.\(^{61}\) Significantly, energy is defined by the ESTIF as not only electricity but also heating and cooling.

The Committee discussed the merits and shortcomings of micro versus large scale solar projects at a briefing with the Department of Primary Industries. Mr Richard Bolt, Secretary of DPI emphasised the need for technological breakthroughs in the solar industry to lower the overall cost of energy as

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\(^{55}\) Victorian Government, submission no.21, p.4

\(^{56}\) Hon. P Batchelor, MP, Minister for Energy and Resources, Solar workshops planned for regional Victoria, media release, 15 September 2009

\(^{57}\) Australian Government, Department of Resources, Energy and Tourism, Clean Energy Initiative, May 2009, pp.1, 3

\(^{58}\) G Parkinson, ‘Secure funding for fuels of the future just blue sky dreaming’, The Australian newspaper, 3 October 2009

\(^{59}\) Panel discussion on solar power systems, All-Energy Australia 09 conference, Melbourne, 7 October 2009

\(^{60}\) Mr O Drucke, President, European Solar Thermal Technology Industry and Regional Development, All-Energy Australia 09 conference, Melbourne, 7 October 2009

\(^{61}\) Mr O Drucke, President, European Solar Thermal Technology Industry and Regional Development, All-Energy Australia 09 conference, Melbourne, 7 October 2009
part of large scale facilities. Micro photovoltaic systems generally installed on household rooftops were not investigated as part of this inquiry.

Marine – wave and tidal

According to the Victorian Government submission, the state has ‘world-class’ wave, tidal and off-shore wind resources. A vast number of different technologies are under development to capture wave energy including turbines that are either fixed to the shore, sea bed or floating on the water’s surface. Victoria’s wave resources are concentrated to the west of Cape Otway with some resources on the east coast as well, as set out in figure 2.13.

Figure 2.13 Yearly average wave power potential in Victoria (kilowatts per metre)

Key: Yearly average wave power potential (kW per metre)
The map indicates the potential wave power within Victoria. The resource assessment was developed in partnership with Water Technology.


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62 Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009
63 Victorian Government submission no.21, p.4
Carnegie Wave Energy Ltd commissioned RPS MetOcean in 2008 to investigate the availability of the wave resource in the one metre to four metre range in which its technology operates. It concluded that:

The ideal height is around two metres to three metres. It is a very consistent energy around that size wave. Most of the sites across the southern half of Australia that are south-westerly exposed have an availability of around 60 per cent of two metre to three metre waves and then it just depends on how quickly they drop off. A site like Albany, for example in Western Australia has 100 per cent availability of an average wave height of one metre. So there is always a one metre swell running. As you move further east the availability of that one metre swell drops off – for example, at a site like Phillip Island, where it drops down and where maybe around 80 per cent or 90 per cent of the year you have a one metre swell running. You will always be producing some energy, and it obviously ramps [up] from one metre through to four metres. 64

The company has been involved in a seabed licensing process in Victoria, South Australia and Western Australia. Mr Greg Allen, Chief Operating Officer of Carnegie Wave Energy Ltd explained that the granting of licences provides the company with ‘investment confidence to undertake non-invasive exploratory activities to ascertain the feasibility of doing a project at a potential site’.65 Carnegie has secured licences in Western Australia and South Australia for a couple of areas of seabed. In Victoria the company has Coastal Management Act consent and has been working with the Department of Sustainability and Environment to secure a licence to conduct exploratory activities across larger areas.66 The consent received is subject to the company defining a specific location at which to deploy a single trial unit or wave-monitoring buoy. The company is trying to get larger coverage under the form of a licence that enables it to invest in the exploratory activities to narrow down the area as to where to deploy the unit. The process in Victoria is in reverse to the other two jurisdictions where a single test unit can be deployed to conduct the quantification work. Mr Allen explained that:

We are reasonably well advanced now in finalising that [Victorian] licence. It looks like the licence will take the form of an agreement for lease combined with a licence to undertake the activities that need to be undertaken … The challenge we have had is that we have really been at the forefront of the process in that there has not really been a process. We have been forging a process at the same time as trying to advance it and needing to do a reasonable level of desktop activities to ascertain what the resource is in the various locations to even pinpoint the areas for the licensing. That has been the process. I suppose the main impediment has really been the time taken to get through this process, which started probably almost two and a half years ago in Victoria, probably three years ago in Western Australia and in between time in South Australia. That has really been the impediment to it, the time is takes to go through that process mainly because you are trying to forge a process and establish a process as you go. 67

Most wave technologies are still undergoing development.68 There are no large-scale commercial wave energy facilities in operation. Carnegie aims to commission its 5 megawatt commercial demonstration project in Western Australia in 2011. Another company Oceanlinx is looking to initially

64 Mr G Allen, Chief Operating Officer, Carnegie, Wave Energy Ltd, Environment and Natural Resources public hearing – Adelaide, 29 September 2009, transcript of evidence, p.306
65 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources public hearing – Adelaide, 29 September 2009, transcript of evidence, p.303
66 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources public hearing – Adelaide, 29 September 2009, transcript of evidence, p.303
67 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources public hearing – Adelaide, 29 September 2009, transcript of evidence, p.303
68 Victorian Government submission no.21, p.4
install two units off Portland by 2012.\textsuperscript{69} Victorian Wave Partners has received $66 million of federal funding towards building a 19 megawatt staged construction and demonstration of wave power generation off the coast from Portland.\textsuperscript{70}

Tidal energy is captured from the flooding and ebbing tide through the use of either tidal turbines or tidal barrage systems, which trap large areas of water and require larger tidal currents.\textsuperscript{71} The government submission states that tidal power generation opportunities along coastal Victoria are limited due to the small tidal range present in Bass Strait and the lack of natural flow channels that are not already used for shipping.\textsuperscript{72}

Tenax Energy has developed a tidal energy proposal called the Port Phillip Heads Tidal Project comprised of 45 tidal energy generator turbines on the seabed of the bay and an associated cable connection to the Bellarine Peninsula grid. The Director of the company explained some of the criteria that must be met to make such a proposal commercially attractive:

\begin{quote}
For tidal energy to be viable, you need to have four specific criteria. The first one is there needs to be a sufficient current. The current at Port Phillip Heads is in excess of 2.5 metres per second, which is a commercially viable current. The second one is that you need to be close enough to existing grid infrastructure. For the site on the Bellarine Peninsula to the grid is under two kilometres, so it is an ideal fit. The third is you need to have sufficient depth to install a turbine … \textsuperscript{73}
\end{quote}

Tenax advised the Committee that the status of the project was unclear as no advice had been received from the government in writing. Furthermore:

\begin{quote}
The difficulty with marine energy is that it is the government that is the land-holder. When you apply for a government lease, you effectively have to lodge an environment effects statement or referral, which means you are putting the cart before the horse. You are not doing your feasibility studies before you lodge the documentation. You have to lodge the documentation, then do you feasibility studies or finalise them. If the government does not give you access to the land, then you cannot effectively do your feasibility studies and you cannot commence with environmental approval processing. \textsuperscript{74}
\end{quote}

Sustainability Victoria has mapped the tidal resources in Victoria as set out in figure 2.14. The resource does not take into account shipping lanes, water depth and other factors involved in assessing the commercial viability of the resource.

\begin{itemize}
\item \textsuperscript{69} Mr A Baghæi, Chief Executive Officer and Executive Director, Oceanlinx Ltd, All-Energy Australia 09 conference, Melbourne, 8 October 2009
\item \textsuperscript{70} Hon. P Batchelor MP, Minister for Energy and Resources, Brumby Government welcomes funding for wave power, media release, 6 November 2009
\item \textsuperscript{71} Victorian Government submission no.21, p.4
\item \textsuperscript{72} Victorian Government submission no.21, p.4
\item \textsuperscript{73} Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.34
\item \textsuperscript{74} Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.32
\end{itemize}
The maps indicate the potential tidal power within Victoria. The resource does not take into account shipping lanes, water depth and other factors involved in assessing the commercial viability of this resource. The tidal potential for Victoria was developed in partnership with Water Technology.

Current forecast sources of renewable energy

The Senate passed the Federal Government’s expanded renewable energy target (eRET) legislation on 20 August 2009. The composition of the renewable energy to be generated by various technologies under the expanded renewable energy target (to be discussed in detail in chapter 3) is essentially unknown. This is because there are so many variables, including the fact that some technologies are unproven.

Modelling was undertaken for the Department of Primary Industries (DPI) of the various take-up rates of different renewable energy technologies under current federal policy settings. A forecast of the potential contribution, in gigawatt hours, of various forms of renewable energy generation in Victoria and the recently finalised design of the eRET scheme is set out in figure 2.15.

Figure 2.15  Forecast of sources of renewable energy generation (GWh) in Victoria, under the national expanded Renewable Energy Target scheme

Key:  
SHW = solar hot water, PC = photovoltaic

Note that the expanded Renewable Energy Target scheme is a national Scheme and the annual target (shown) is a national target. No state-based targets are set.

Source:  Letter from Ms Joanne de Morton, Acting Secretary, Department of Primary Industries, to Chair of ENRC dated 25 September 2009

For comparison, the figure also shows the national eRET target, with 20 per cent of Australia’s electricity to be generated from renewable energy sources by 2020. It should be noted that these forecasts are based on today’s understanding of the relative costs of competing renewable
technologies and could change significantly as understanding evolves over time. The DPI forecast that wind will account for the largest proportion of renewable energy generation in Victoria.

A table produced by Sustainability Victoria gives an indication of the status of renewable energy projects by technology in Victoria (table 2.16).

Table 2.16 Status of renewable energy projects in Victoria by technology

<table>
<thead>
<tr>
<th>Project status 2009</th>
<th>Biomass (MWh)</th>
<th>Geothermal (MWh)</th>
<th>Hydro (MWh)</th>
<th>Solar (MWh)</th>
<th>Tidal (MWh)</th>
<th>Wind (MWh)</th>
<th>Totals (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects installed and operating</td>
<td>110.1</td>
<td>18.15</td>
<td>760.1</td>
<td>13.3</td>
<td>0.15</td>
<td>458.4</td>
<td>1452.2</td>
</tr>
<tr>
<td>Projects approved for construction but not yet started</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>1.5</td>
<td>1689.6</td>
<td>1695.0</td>
</tr>
<tr>
<td>Planning permit applications lodged</td>
<td>1.0</td>
<td>0</td>
<td>16.2</td>
<td>208.7</td>
<td>0.0</td>
<td>1231.4</td>
<td>1458.3</td>
</tr>
<tr>
<td>Projects referred for EES submission</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1589.2</td>
<td>1589.2</td>
</tr>
<tr>
<td>Projects undergoing feasibility study</td>
<td>0.0</td>
<td>10.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1085.5</td>
<td>1085.5</td>
</tr>
<tr>
<td>Projects withdrawn by proponent</td>
<td>0</td>
<td>0</td>
<td>19.5</td>
<td>0.0</td>
<td>0.5</td>
<td>635.4</td>
<td>1013.4</td>
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<td>Projects that may be considered in future</td>
<td>20.0</td>
<td>0</td>
<td>130.0</td>
<td>0.0</td>
<td>0.0</td>
<td>391.5</td>
<td>561.5</td>
</tr>
<tr>
<td>Projects that have been decommissioned</td>
<td>0</td>
<td>0</td>
<td>2.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>156.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>389.3</strong></td>
<td><strong>28.95</strong></td>
<td><strong>928.2</strong></td>
<td><strong>222.0</strong></td>
<td><strong>2.2</strong></td>
<td><strong>7081.0</strong></td>
<td><strong>9012.0</strong></td>
</tr>
</tbody>
</table>

Source: Sustainability Victoria, personal communication, 22 October 2009

75 Ms J de Morton, Acting Secretary, Department of Primary Industries, correspondence, received 25 September 2009
Introduction

The policy and regulatory framework for renewable energy projects in Victoria is highly complex, involving multiple stakeholders and diverse policy issues ranging from planning approvals to energy policy. Key aspects of the broad legal and policy context remain unresolved, including the existence and scope of any future international climate change agreements, the Australian government's proposed emission trading scheme, and both the Victorian and the federal government's long term energy frameworks. In addition, the regulatory framework within which Victorian renewable energy projects operate is currently the subject of intense scrutiny and revision. Reviews have been recently completed or are currently being conducted into environmental regulation in Victoria, state-based wind farm guidelines, proposed national wind farm guidelines, the Planning and Environment Act 1987 (Vic), the impact of federal climate change and renewable energy policies on energy market frameworks, and electricity distribution network planning.

This chapter provides a snapshot of this shifting policy and regulatory landscape. It focuses on three key areas: international, national and state policy settings; key planning approvals and environmental assessment processes for renewable energy projects in Victoria; and the structure and regulation of the energy sector. This chapter also addresses the final two terms of reference for the inquiry: (d) concerning the Carbon Pollution Reduction Scheme and expanded federal Renewable Energy Target as likely future drivers for renewable energy in Victoria, and (e) other reviews and inquiries covering similar issues to this inquiry.

International legal framework

A key driver behind the growth of renewable energy projects in Victoria has been 'the policy imperative for all nations around the world to cut greenhouse gas emissions in an effort to reduce the impact of climate change.'\textsuperscript{76} Agreements and commitments made at the international level provide a reference point for domestic policy. This chapter therefore commences with a brief overview of the international climate framework, which comprises two agreements: the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol to the UNFCCC. It then refers to the Copenhagen Accord reached in December 2009.

\textsuperscript{76} Vestas, submission no.7, p.3
United Nations Framework Convention on Climate Change

The UNFCCC is ‘the foundational agreement of the international climate change legal framework’. The UNFCCC has been ratified by 192 countries, including Australia in December 1992. Under the UNFCCC, countries share information on greenhouse gas emissions, national policies and best practice approaches, as well as cooperate in developing mitigation and adaptation strategies.

The commitments entered into by parties under the UNFCCC include formulating and implementing climate change mitigation measures, developing technologies that assist in the implementation of the UNFCCC and integrating climate change considerations into social, economic and environmental policies and actions. However, the extent to which parties must comply with these commitments is determined by their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances.

Kyoto Protocol

The UNFCCC, as a framework convention, expressed a broad international consensus on the issue of climate change, and provided the foundation from which more specific agreements – or protocols to the convention – could be negotiated. The Kyoto Protocol, negotiated under the UNFCCC, has been ratified by 183 countries, including Australia in December 2007.

The Kyoto Protocol is the centrepiece of the international climate change regime. It imposes binding and quantitative greenhouse gas emissions reduction targets upon 37 industrialised nations and the European Community. Under the Protocol, parties must meet their targets primarily through national measures. Article 2 of the Protocol lists a number of measures that parties may adopt domestically in order to meet their emissions targets. Of relevance to this inquiry are measures to promote renewable energy and encourage reforms in relevant sectors to promote emissions reductions. Under the Protocol, parties’ actual emissions are monitored through the submission of annual emission inventories and national reports. The Protocol also introduced a number of market-based mechanisms which parties can use to supplement their domestic emissions reductions initiatives. One of these market-based mechanisms is emissions trading, through which nations can purchase emissions quotas from each other.

A post-Kyoto framework

The first commitment period of the Kyoto Protocol will end in 2012. The development of a post-Kyoto framework began in Bali in December 2007 at the thirteenth Convention of Parties (COP) to the UNFCCC. The fifteenth COP, in Copenhagen in December 2009, was designated as the forum for reaching a post-Kyoto agreement. Approximately 25 countries agreed to the Copenhagen Accord which recognised ‘the scientific view that the increase in global temperature should be below 2 degrees Celsius’ and emphasised their ‘strong political will to combat climate change’.

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77 Mr J Parker and Ms F Ramsay, *The UNFCCC and the Kyoto Protocol, Climate Change Law and Policy in Australia*, LexisNexis, [3-060]
78 Mr J Parker and Ms F Ramsay, *The UNFCCC and the Kyoto Protocol, Climate Change Law and Policy in Australia*, LexisNexis, [3-110.5]
79 *Copenhagen Accord*, Decision -/CP.15, 18 December 2009, p.1
The possibility of a new international agreement being reached at Copenhagen was a reference point for federal government policy on climate change. In a submission to the UNFCCC, the Australian Government committed to a target of reducing greenhouse gas emissions to 25 per cent below 2000 levels by 2020, if ‘the world agrees to an ambitious global deal’ capable of stabilising atmospheric concentrations of greenhouse gases at 450 parts per million (ppm) of carbon dioxide equivalence or lower. It has committed to reducing emissions up to 15 per cent by 2020 if there is a global agreement which falls short of securing atmospheric stabilisation at 450 ppm and under which major developing economies commit to substantially restrain emissions and advanced economies take on commitments comparable to Australia. However, if Australia is not a party to such an agreement, it would work towards a target of between 5 per cent emissions reductions from 2000 levels by 2020. The level of the target adopted by the government is likely to have a direct impact on the speed and extent of the adoption of renewable energy generation in Victoria.

National policy framework for renewable energy

The federal government has stated that it is in Australia’s ‘national interest to take strong and decisive action on climate change.’ The Garnaut Climate Change Review found that Australia has a larger interest in the strong mitigation of climate change than other developed nations. In the review, Professor Ross Garnaut observed that ‘if the world is to meet the challenge of climate change, there will need to be a transformation in Australia’s stationary energy sector as it adjusts to mitigation policies.’

This section, on the national policy framework for renewable energy, is concerned with the effects of federal policy on renewable energy as a climate change mitigation measure, outlining initiatives such as the Carbon Pollution Reduction Scheme (CPRS), the expanded Renewable Energy Target (RET), and a variety of federal funding programs. Other aspects of national law and policy which are relevant to the Victorian renewable energy industry, including energy policy more broadly and environmental legislation, are discussed in this chapter as they arise.

Submissions to the inquiry have emphasised that certainty in government policy is fundamental to investment in renewable energy projects. In its submission, wind farm proponent, NewEn Australia explained that:

Renewable energy projects are very long-term investments (20+ years) and require a very firm and consistent stance and legislation from all political parties and governments for their support (or otherwise) to enable private investment in this area. It is imperative, therefore, that the Federal and State Governments decide on firm policies to support renewable energy projects. This support has to be firm and secure over a period of say 20 years so that investors can plan with confidence and manage to amortise their projects within a reasonable time frame.

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84 NewEn Australia, submission no.17, p.4
Similarly, the Chief Executive of the Australian Geothermal Energy Association, Ms Susan Jeanes, gave evidence that:

A concern … is that policy changes always occur. You might still have a steady stream of funds, but they are recreated and re-announced at each election which confuses industry and does not necessarily give industry the long-term framework. I think the clean coal initiative runs for nine years. Our geothermal drilling program potentially runs out this year … We need those long-term signals, as the coal industry has been acknowledged as needing those long-term signals.85

The evidence provided to the Committee is supported by a Climate Institute report into the opportunities and barriers to renewable energy development in Australia, which concluded that:

The lack of a strong price signal was identified by interviewees as the single most important barrier to clean technology development and deployment in Australia. Interviewees also pointed to the perception of greater levels of investment risk associated with new technologies. According to most interviewees, the absence of a strong policy setting has to date restricted the commercial viability of low emissions technologies in Australia.86

The need for certainty in government policy and adequate incentives for investment in renewable energy, particularly in relation to emerging technologies, were key themes in the evidence provided by stakeholders to the inquiry.

Carbon Pollution Reduction Scheme

In its White Paper on Climate Change, Australia’s Low Pollution Future, the Australian Government adopted a ‘cap and trade’ emissions trading scheme - the Carbon Pollution Reduction Scheme (CPRS) – as its proposed primary mechanism for meeting its greenhouse gas reduction objectives.87

The emissions trading and ‘cap and trade’ schemes have been described as follows:

Emissions trading involves the trading of emissions permits, allowances or credits… Permits are created and issued by governments under emission trading schemes (ETS) and can be traded amongst participants in the schemes to cover emissions.

Emissions trading utilises broad-based market mechanisms, through supply and demand, to create a price for emissions. The economic incentives arising out of placing a price on emissions encourages emitters to take action to reduce their emissions either by purchasing emissions units from other participants under the emissions trading scheme … and/or investing in abatement activities.

Under a ‘cap-and-trade’ system, the most common approach to an ETS, the government sets an upper limit, or cap, on total allowable emissions. Depending on the scope and coverage of the ETS, the emissions cap can apply across the economy as a whole or within different industry sectors. The government then issues emission permits up to that cap and allocates those permits to scheme participants; this allowance represents the participants right to emit. In order to create incentives to reduce emissions, the number of allocated permits, or the cap, must be less than the expected business-as-usual emissions.88

85 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.269
86 The Climate Institute, Breaking Through on Technology: Perspectives from Australia, prepared by The Climate Institute for The Global Climate Network and the Institute for Public Policy Research (UK), June 2009, p.ii
On 12 August 2009, the 11 bills which constitute the government’s legislative package were voted down in the Senate.

There was general consensus in submissions to the inquiry that the CPRS would assist the renewable energy sector by providing price signals that could drive demand in the long-term rather than the short or medium term, unless more aggressive reduction targets were established. For example, the renewable energy provider Pacific Hydro stated that:

*In the longer term, the Carbon Pollution Reduction Scheme (CPRS) will ... play an important role in stimulating investment in clean energy technologies. By introducing a price on carbon, the CPRS will provide the wholesale energy price uplift required to assist renewable energy [to] become competitive with incumbent thermal technologies in the longer term. Pacific Hydro believes that this will be essential to the sustainable development of a robust renewable energy sector in Australia.*

Similarly, the renewable energy company Acciona Energy noted that:

*A carbon price of around $70/tonne will be a necessary threshold for renewable energy developers if significant ongoing investment decisions are going to be made. However, prices such as this are unlikely to be the case for some time to come and in our view the CPRS on its own is going to do little to drive investment decisions in renewables between now and at least 2030.*

Some industry sectors noted their frustration at continuing policy uncertainty regarding Australia’s primary emission reductions mechanism. The Australian Geothermal Energy Association gave evidence that:

*The industry just wants to see a scheme. The entire clean energy industry needs to see some sort of scheme so it knows what the level playing field will ultimately look like. We think the commonwealth perhaps overemphasises the fact that a carbon price is ultimately going to draw all this activity towards it at some stage in the future. That is very much an oversimplification. If that were the only policy tool, there would be no action.*

**Renewable Energy Targets**

**Mandatory Renewable Energy Target**

The goal of the Mandatory Renewable Energy Target (MRET) Scheme, which commenced in April 2001, was to increase the proportion of renewable energy in Australia’s electricity supply market. The original target required 9,500 gigawatt hours of renewable energy by 2010. The operation of the scheme has been described as follows:

*The scheme guarantees a market for renewables-based generation using a mechanism of tradeable Renewable Energy Certificates (REC). A REC is created by a generator of renewable energy and one REC is equivalent to 1 MWh. The REC is then traded to an electricity retailer or large purchasers of wholesale electricity (Liable Party) on a financial market (called the REC Registry) which is separate to the electricity market .... Accordingly, an Eligible Generator effectively obtains a second revenue stream through the sale of RECs on the REC Registry as it is separate to the sale of its electricity through the national electricity market...*
A Liable Party then surrenders the REC to [the Office of the Renewable Energy Regulator] to evidence compliance with its liability under the Act. Where a Liable Party does not have enough RECs to surrender it will be required to pay a shortfall charge, determined by the legislation.\[92\]

According to Vestas Australian Wind Technologies Pty Ltd, a wind turbine manufacturing company, the MRET has driven most of the investment in wind energy in Australia.\[93\] However, the initial growth slackened due to an unambitious target. Mr Ken McAlpine, Government Relations Manager at Vestas, described the history of the Mandatory Renewable Energy Target as follows:

\[92\] Ms N Shannon, Ms J Green and Mr C Johnson, *Commonwealth Policy and Legislation, Climate Change Law and Policy in Australia*, LexisNexis Australia, [5370]

\[93\] Vestas, submission no.7, p.2

\[94\] Mr K McAlpine, Government Relations Manager, Vestas Australian Wind Technology, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.46

\[95\] Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

\[96\] Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee, 21 July 2009, Melbourne

\[94\] Mr K McAlpine, Government Relations Manager, Vestas Australian Wind Technology, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.46

I think what has held up fast growth of the industry in Australia in the last three or four years is undoubtedly the very low mandatory renewable energy target.

When it started, that policy initiative at the federal level got a lot of investments off the ground and attracted a lot of companies here, but it quickly was subscribed. By about 2004 – 2005 it was pretty clear that we were going to reach the target of 9500 gigawatt hours by 2010. For the next few years the industry was asking for a higher target. The federal government received advice that it should double the target. It rejected that advice and it took a change of government to get to that 20 per cent level that the senate is shortly to debate.\[94\]

Expanded Renewable Energy Target

As part of its climate change mitigation strategy, the federal government committed to expand the renewable energy target (ERET), such that 20 per cent or 45,000 GWh of Australia’s electricity supply would come from renewable sources by 2020. Legislation to expand the MRET was introduced into Parliament in June 2009. The government linked the proposed expansion of the RET with the commencement of the CPRS. As a consequence, during much of the period within which the Committee was collecting evidence for this inquiry, investment in renewable energy was stalled in part due to uncertainty associated with the commencement of the new regime. In a briefing to the Committee held in June 2009, the Executive Director of Energy Sector Development at the Department of Primary Industries, Ms Marianne Lourey, described the situation as follows:

[The RET] legislation is currently sitting in Parliament in Canberra. That has created a whole lot of uncertainty so the industry is no longer prepared to invest until it understands exactly what the scheme is going to look like.\[95\]

In a further briefing held in July 2009, Ms Lourey observed that:

The biggest issue at the moment is investment certainty. In the previous briefing we talked about the delay in the Commonwealth passing the legislation for the expanded renewable energy target scheme. There is insufficient certainty, particularly for financiers, to provide finance to support the projects. We are expecting that as soon as there is greater certainty from the Commonwealth with its scheme that a number of projects will start moving very quickly.\[96\]
Following the rejection of the CPRS bills in August 2009, the government ‘decoupled’ the RET from the CPRS. The government and opposition parties agreed to pass the expanded RET legislation on the basis that Emissions Intensive Trade Exposed firms would be supported if costs from the RET increased above a certain point. The expanded RET legislation was passed by the Federal Parliament on 20 August 2009.

Impact of the Expanded Renewable Energy Target

The expanded RET was identified by participants in the inquiry as a significant driver of investment in renewable energy. In its submission, Pacific Hydro wrote that ‘renewable energy investment in Australia in the short to medium term will principally be driven by the Federal Renewable Energy Target’.\(^\text{97}\) Similarly, Acciona Energy observed that ‘the expanded federal renewable energy target … will … provide major impetus for investment in renewable energy in Australia in the period through to 2020’.\(^\text{98}\) Mr Mark Wakeham, Campaigns Director at Environment Victoria explained the significance of the expanded RET as follows:

> I am convinced that the biggest obstacle to developing renewable energy projects is a market barrier. There are important regulatory and approvals issues as well, but basically all the renewable energy development in Australia in the last decade has been off the back of the federal renewable energy target, then state targets, driven also by some other mechanisms including Green Power and some other renewable energy support mechanisms. But basically if we want to get more renewable energy projects in Victoria, we need to make sure we have the market mechanisms so that the finances of building renewable energy projects stack up. Obviously that is a tough challenge when renewable energy projects have to compete with brown coal generators that have paid off the investment in their assets decades ago – at least the construction cost of those assets.\(^\text{99}\)

The Committee received evidence that the expanded RET will have different impacts across the renewable technologies spectrum. According to the Department of Primary Industries, a potential drawback of the RET scheme is that ‘it tends to drive the costs down so that new-frontier technologies do not get a look-in’.\(^\text{100}\) Wind is the most developed and cheapest renewable energy industry in Australia, with more than 11,500 MW of wind power projects under construction, at the approval or planning stages in October 2009, and therefore it is generally agreed that the expanded RET will favour the development of the wind industry.\(^\text{101}\)

Acciona Energy advised the Committee of the likely impact of the RET on various renewable technologies in its submission:

> The target will support wind energy in particular, being the most market ready of the technologies available. It is anticipated that geothermal energy projects stand to benefit from the target. Beyond these two technologies, we do not see the RET driving significant investment decisions in other mature or emerging technologies. Specifically, Australia is unlikely to see significant investment in either solar thermal or solar photovoltaic energy generation (at scale) as a direct result of the RET.\(^\text{102}\)

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\(^{97}\) Pacific Hydro, submission no.29, p.13

\(^{98}\) Acciona, submission no.33, p.7

\(^{99}\) Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.69

\(^{100}\) Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

\(^{101}\) See Mr K Orchison, ‘Renewable Energy Race Draws Keen Contestants’, *The Australian* newspaper, 8 October 2009, p.7; Mr G Parkinson, ‘Money to Flow as Wind Wins the Day’, *The Australian* newspaper, 24 August 2009, p.25

\(^{102}\) Acciona, submission no.33, pp.7–8
A recent newspaper report described the impact of the RET on the geothermal industry as follows:

*Most forecasts predict 70 to 80 per cent of the RET will be taken up by wind-farm developments. In theory, that would leave 2000 to 3000 MW of capacity for energy sources such as geothermal, but the industry is not certain the structure of the RET can provide the price certainty to finance developments...*

Ms Susan Jeanes, the head of the Australian Geothermal Association, says the RET decision could set the industry’s development back by years.

*We could go a lot faster if the market could see that RET revenue could be factored into a business plan, she said. Each company will be affected by it in a different way. Some haven't even got to the point where it could be factored in, but the real concern is the geothermal industry is not being provided long-term policy certainty.*

While the RET bill was in abeyance, the solar, geothermal and wave industries argued that a percentage of the RET should be set aside for emerging technologies. However, the suggestion was not incorporated into the legislation. The proposal to set aside bands of the expanded RET for emerging technologies was also criticised by some participants in the inquiry. Environment Victoria was concerned that reserving a percentage of the RET for a particular technology would delay investment so that ‘we do not get the up-front investment in the technologies which can deliver the emissions reductions right now.’ Instead other support mechanisms would be appropriate in order to provide incentives for the development of emerging technologies.

The Committee heard evidence that the inclusion of small scale renewable energy such as solar photovoltaic and micro-wind turbines in the RET legislation has the potential to distort investment in large scale renewable energy generation under the expanded RET mechanism. The federal government’s **Solar Credit Scheme** which was introduced in 2009 as part of the RET entitles investors in small-scale solar photovoltaic and micro-wind turbines to five times the amount of Renewable Energy Certificates (RECs) for every megawatt hour of electricity generated. The RECs created by owners of small generation units can be purchased by electricity retailers to fulfil their obligations under the RET scheme. The profits from the sale of RECs which are in excess of the actual renewable energy produced, thus provide an incentive for investment in small-scale renewable generation.

Environment Victoria stated that they were ‘very concerned that the renewable energy target will be dominated in the early years, the first three years in particular, by solar water heating and PV solar.’ A report by the investment bank, UBS, has predicted that the expanded RET will largely be composed of RECs generated by household solar systems. UBS concluded that the installation of 10,000 solar photovoltaic systems per year had the potential to take up 79 per cent of the additional...
RECs that would be created as a result of the expanded REC scheme. In addition, Environment Victoria raised issues associated with the inclusion of solar water heaters in the RET, on the basis of one REC for one megawatt hour, observing that approximately 20 per cent of all RECs created since the inception of the MRET derive from solar hot water heaters.

Environment Victoria asserted that the combination of solar water heaters and solar photovoltaic has ‘the potential to shut out the majority of additional investment into larger scale renewable energy for the life of the Solar Credits Scheme (ie 2009 – 2015).’ Further, Mr Wakeham expressed concern that due to the multiplier effect of small scale solar and wind generation, the majority of the RECs generated by such projects will not represent the contribution of ‘real generation’ to achieving the 20 per cent Renewable Energy Target. Similar criticisms were expressed by the Chief Executive of the Australian Geothermal Energy Association (AGEA), who advised that the design of the scheme ‘means that the RECs for solar water heaters and wind could destroy the scheme for us.’ She explained that investment in the geothermal industry is projected to ‘kick in’ around 2013. However, the industry is concerned that by that stage the value of the RECs or the availability of REC contracts may be non-existent, due to the high volume of RECs generated by small-scale renewables and solar water heaters in the market.

It appears that the predictions made by a number of stakeholders are being realised. Several media reports published between October 2009 and February 2010 attributed an ‘accelerating slump’ in the price of RECs, to certificates generated by domestic solar hot water and heat pump systems, which were ‘swamping’ the market. The Council of Australian Governments (COAG) is currently considering whether and how, annual targets under the expanded RET, should be increased to offset ‘phantom’ RECs which are not supported by commensurate generation.

The Committee concluded that the expanded RET is likely to be a significant driver of investment in Victorian renewable energy projects. The Committee noted that the large scale renewable energy industry which will derive the most benefit from the expanded target will be wind. However, due to the Solar Credits Scheme policy and with the inclusion of solar hot water in the expanded RET, the scheme is currently dominated by solar hot water and small scale solar photovoltaic systems rather than large-scale renewable energy projects.

110 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.269
111 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.269
Commonwealth renewable energy projects

In addition to the expanded RET, the Commonwealth has established the following programs to encourage the development of renewable energy projects:

- Clean Energy Initiative which includes:
  - the Solar Flagships Program; and
  - the newly created Australian Centre for Renewable Energy, which consolidates programs such as:
    - the Renewable Energy Demonstration Program ($300 million);
    - the Geothermal Drilling Program ($50 million);
    - the Renewable Energy Equity Fund ($18 million); and
    - $150 million in discretionary funding for new initiatives.114

- Climate Ready115; and

- Renewable Energy Development Initiative.116

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Clean energy initiative

The Clean Energy Initiative brings together previous initiatives and funding under a new framework, with a budget commitment of $4.5 billion, of which $1.465 billion is additional to the previous schemes. Under the Clean Energy initiative:

- $1.365 billion was allocated to support new investment in large-scale solar energy projects over the next eight years under a new Solar Flagships program (discussed in chapter 2).

- $14.9 million was allocated for a three year Clean Energy Trade and Investment Strategy to assist Australian businesses exploit global opportunities being created by climate change policies.117

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115 Victorian Government, submission no.21, p.10


117 Victorian Government, submission no.21, p.9
Chapter 3: Policy and regulatory framework for renewable energy projects in Victoria

Renewable Energy Demonstration Program

The Renewable Energy Demonstration Program (REDP) is a $435 million competitive grants program designed to accelerate the commercialisation and deployment of new renewable energy technologies for power generation in Australia. The REDP is targeted at project proposals that are relatively mature and are at the stage of commercial demonstration. Demonstration is taken to be the final step to address remaining technology risks around integration and scale-up, once the technology has been proven at pilot plant scale.\footnote{118}

Geothermal, wave, biomass and wind storage must compete for a share of the $300 million under the non-solar REDP.\footnote{119} According to a newspaper report, ocean and geothermal energy industries want the government to lift funding to ‘somewhere towards the $3 billion to $4 billion annual spend recommended by Ross Garnaut.’\footnote{120}

Geothermal drilling fund

The $50 million Geothermal Drilling Program provides assistance to companies seeking to develop geothermal energy with the cost of proof of concept projects including drilling geothermal wells.\footnote{121}

In early October 2009, the Australian Geothermal Energy Association (AGEA) registered its frustration at what the geothermal industry perceives is a lack of funding and urgency from the government in supporting drilling and proof of concept studies for geothermal projects. The Chief Executive of AGEA was reported as observing that just $50 million had been allocated to support geothermal drilling programs, with 14 companies competing for five remaining $7 million grants to be decided in November 2009.\footnote{122}

Renewable Energy Equity Fund

The Renewable Energy Equity Fund (REEF), administered by AusIndustry, provides venture capital and managerial advice for small, innovative renewable energy companies.\footnote{123}

Climate Ready

Climate Ready is a competitive program providing grants from $50,000 up to $5 million on a matching funding basis to support research and development, proof of concept and commercialisation activities to develop solutions to climate change challenges. The program funding is $75 million over 4 years.\footnote{124}

\footnote{118}{Victorian Government, submission no.21, p.10}
\footnote{119}{Mr G Parkinson, ‘Securing Funding for Fuels of the Future Just Blue Sky Dreaming’, \textit{The Australian} newspaper, 3 October 2009, p.3}
\footnote{120}{Mr G Parkinson, ‘Securing Funding for Fuels of the Future Just Blue Sky Dreaming’, \textit{The Australian} newspaper, 3 October 2009, p.3}
\footnote{122}{Mr G Parkinson, ‘Securing Funding for Fuels of the Future Just Blue Sky Dreaming’, \textit{The Australian} newspaper, 3 October 2009, p.3}
\footnote{123}{Victorian Government, submission no.21, p.10}
\footnote{124}{Victorian Government, submission no.21, p.10}
Victorian policy and funding framework for renewable energy

This section introduces key climate change policy documents, provides an overview of renewable energy policy and legislation, and presents an update of recent developments in the area. It also outlines grants to large scale renewable energy demonstration projects under the Energy Technology Innovation Strategy. The GreenPower scheme of government accreditation of electricity derived from renewable sources is also examined as a driver for renewable energy.

Victorian climate change policy

The Victorian Government’s climate change policymaking can be divided into three phases.

- The initial phase commenced with the launch of the Victorian Greenhouse Strategy in 2002, which was followed by the Greenhouse Challenge position paper, focusing on the stationary energy sector, in 2004.
- The second phase began with the government’s Sustainability Action Statement, released in 2006. The Sustainability Action Statement was supplemented by a Renewable Energy Action Plan and Energy Efficiency Action Plan, which set renewable energy targets and sought to identify the potential for energy efficiencies within the Victorian economy.
- The third and current phase of policy development is focused on creating a climate change strategy for Victoria. The Victorian Government has committed to introducing a Climate Change Bill and has released a Green Paper on the Bill.

The position papers, policy statements and initiatives that are most relevant to the terms of the inquiry are briefly outlined below.

125 Victorian Government, submission no. 21, p.10
Chapter 3: Policy and regulatory framework for renewable energy projects in Victoria

**Victorian Greenhouse Strategy, 2002**

The Victorian Greenhouse Strategy introduced the Renewable Energy Support Fund (RESF) to support ‘innovative small to medium scale renewable energy projects in Victoria’. The RESF is now closed. The Greenhouse Strategy also included commitments to prepare a Wind farm Development Guide and to provide funding for preliminary feasibility studies for cogeneration.


The Greenhouse Challenge for Energy position paper, released in 2004, sets out the Victorian Government’s greenhouse policy for the stationary energy sector. Policy objectives included:

- reduction of greenhouse gas emissions from the production and use of energy;
- identifying and pursuing policy paths to facilitate Victoria’s transition to a carbon-constrained future;
- maintaining a ‘secure, efficient and affordable supply of energy’;
- encouraging investment in the energy sector; and
- ensuring the long-term future of the Latrobe Valley.

**Renewable Energy Action Plan, 2006**

The government released the Renewable Energy Action Plan in 2006. The Plan aimed ‘to provide a framework to drive demand while removing barriers to the uptake of renewable energy in Victoria.’ The Plan included the following actions:

- establishment of the Victorian Renewable Energy Target (VRET) scheme;
- support of renewable energy research and development in Victoria;
- introduction of ‘smart energy zones’ by providing support for demonstration projects that combine renewable energy generation, energy storage and enabling technologies such as smart metering; and
- establishment of a renewable energy development package to maximise the growth of the Victorian renewable energy industry.

**Victorian Renewable Energy Target**

The Victorian Renewable Energy Target (VRET) scheme commenced operation on 1 January 2007. The primary objective of the VRET scheme was for renewable energy sources to provide 10 per cent of the electricity consumed in Victoria by 2016. Under the VRET scheme, electricity retailers and wholesale purchasers of electricity in Victoria are endowed with a legal liability that they are required to satisfy through the purchase of certificates generated by renewable energy providers.

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127 Victorian Government, submission 21, p.8
128 Department of Natural Resources and Environment, *Victorian Greenhouse Strategy*, 2002, pp.46-7
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

According to the Department of Primary Industries, the VRET was able to provide industry with some momentum in the period between the MRET being fully subscribed and the commencement of the new expanded RET scheme. The Executive Director of Energy Sector Development, Ms Marianne Lourey commented that:

The VRET was very successful, so there are a number of new projects that were started off the back of that scheme. There were new wind farms – including the new Waubra wind farm, which is quite sizeable – and Portland expanded. 132

On announcement of the Commonwealth Government’s expanded RET, Victoria committed to transitioning the VRET into the expanded RET scheme. According to the Department of Primary Industries, modelling commissioned by the Victorian and Commonwealth Governments forecast that under the expanded RET, the supply of renewable energy in Victoria would be more than double that which would have been delivered solely under the VRET scheme. 133 Victoria is transitioning into the national RET scheme throughout 2010. 134

Climate Change White and Green Papers, 2009

In June 2009, the Victorian Government released a draft policy document, Climate Change Green Paper, designed to provide a basis for comment and discussion on the government’s response to climate change. The Green Paper outlines the climate change issues facing Victoria, identifies the role of government in dealing with these issues, and proposes climate change goals and priorities for Victoria in the context of the introduction of the CPRS. One of the goals includes developing a portfolio of energy options for a low carbon future. 135 The government has indicated that the White Paper will:

- set out a comprehensive climate change strategy for the next 10 years (to 2020);
- be a statement of Victorian Government policies, programs and initiatives under the priority areas highlighted in the Green Paper;
- outline new and continuing programs, with funding, delivery and timeframes; and
- target two budget cycles to reflect a longer-term focus. 136

The Government has indicated that it intends to release a White Paper and draft Climate Change bill. 137

132 Ms M. Lourey, Executive Director, Energy Sector Development, briefing to the Environment and Natural Resources Committee, Melbourne, 22 June 2009
135 Department of Premier and Cabinet, Climate Change Green Paper, June 2009
136 Victorian Government, submission no.21, p.22
Victorian Renewable Energy Initiatives

The Victorian Government provided the following information in its submission to the inquiry about its initiatives to promote renewable energy:

The Victorian Energy Technology Innovation Strategy

The role of the Energy Technology Innovation Strategy (ETIS) is to ‘ensure the timely availability of economically and environmentally competitive brown coal power generation, distributed generation, energy efficiency and renewable and enabling technologies to boost industrial and regional economic growth for Victoria by providing a concerted and coordinated public and private sector action’. Since 2005 there have been two rounds of ETIS funding. In the first round $190 million was allocated including $80 million for two large scale pre-commercial brown coal demonstration projects and up to $50 million to build Australia’s largest solar photovoltaic demonstration electricity plant in north-west Victoria. A further $182 million was announced in 2008 including $72 million for pre-commercial large-scale demonstrations of sustainable energy technologies such as solar, energy storage, biofuels, biomass conversion, geothermal, energy efficiency and clean distributed energy. The remaining funds - $110 million - were allocated to carbon capture and storage demonstration projects. Successful applicants for the grants will be announced in early 2010.

GreenPower

GreenPower is a government accreditation program for renewable energy. The program is run by state and territory governments including the Australian Capital Territory, New South Wales, Queensland, South Australia, Victoria and Western Australia. According to the Victorian Government submission to the inquiry, in ‘choosing a GreenPower accredited retail product, electricity consumers are assured that a proportion of the relevant energy purchases of their retailer will be sourced from accredited renewable generators.’ The GreenPower website states that:

The GreenPower accreditation program aims to drive investment in renewable energy in Australia and make Australia’s electricity supply sustainable. It does this by raising awareness of GreenPower accredited renewable energy projects to increase their uptake and by helping consumers feel more confident when choosing these products.

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139 Hon. P Bachelor, Minister for Energy and Resources, Confidence Up in Victoria’s Sustainable Energy Industry, media release, 11 September 2009
141 Victorian Government, submission no.21, p.8
The Clean Energy Council has observed that GreenPower has been ‘an important driver of additional renewable energy deployment since its introduction in 1997.’

Issues were raised by participants in the inquiry in relation to how the federal government intends to integrate GreenPower into the CPRS. The federal government proposes to set 2009 as the baseline for GreenPower sales, such that the CPRS cap would only be reduced when additional voluntary purchases of GreenPower were made above that baseline. Mr Mark Wakeham, Campaigns Director, Environment Victoria voiced the following criticisms of the proposal:

GreenPower has obviously been a significant contributor [to increasing demand in renewable energy] in recent years, and that is threatened by the carbon pollution reduction legislation, which will only deliver emissions reductions for increases in GreenPower purchases above a 2009 baseline. That basically means that the 980,000 existing GreenPower customers in Australia are not actually delivering increased emissions reductions. If all of them continue to buy green power – which would be a questionable assumption, given that the benefit on which they purchased the product no longer exists – and we get new customers, only that increase will lead to new renewable energy projects.

Solar feed-in tariff

The Victorian Government has instituted a net feed-in tariff for small scale rooftop solar photovoltaic installations. The net feed-in tariff pays generators a premium rate for the excess electricity exported to the grid after in-home consumption. Victoria’s net scheme can be contrasted with a gross feed-in tariff scheme which values the total amount of electricity generated by renewable energy systems. Participants in the inquiry were generally supportive of a feed-in tariff scheme, however, a number of stakeholders raised concerns regarding the nature and structure of the state-based scheme. These issues included a lack of consistency across the schemes adopted by various state governments, and a preference for a gross feed-in tariff scheme.

143 Clean Energy Council, A Million Good Reasons to Recognise Emissions Cuts, media release, 17 October 2009
144 Clean Energy Council, A Million Good Reasons to Recognise Emissions Cuts, media release, 17 October 2009
145 Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.70
146 The incorporation of small scale solar photovoltaic installations into the federal Renewable Energy Target scheme – as an incentive for small scale solar and a potential disincentive for investment in large-scale renewables – is discussed in the section of this chapter on the expanded Renewable Energy Target.
147 Alternative Technology Association, Submission on Renewable Energy (Electricity) Amendment (Feed-in Tariff) Bill 2008, annex I to submission no.26
148 Alternative Technology Association, Submission on Renewable Energy (Electricity) Amendment (Feed-in Tariff) Bill 2008, annex I to submission no.26
149 Alternative Technology Association, Submission on Renewable Energy (Electricity) Amendment (Feed-in Tariff) Bill 2008, annex I to submission no.26
150 Alternative Technology Association, submission no.26, p.2; Mr I Porter, Chief Executive Officer, Alternative Technology Association, Environment and Natural Resources public hearing – Melbourne, 27 July 2009, transcript of evidence, p.59; Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources public hearing – Melbourne, 10 August 2009, transcript of evidence, p.70; Mr R Pearse, Chairman, Ararat Greenhouse Action Group, Ararat, Environment Victoria, Environment and Natural Resources public hearing – Ararat, 24 August 2009, transcript of evidence, p.127
151 Alternative Technology Association, submission no.26, p.2
The Committee received limited evidence on the efficacy of small-scale solar photovoltaic systems, with the Alternative Technology Association outlining their benefits as follows:

These benefits include improved supply reliability through generation diversity; generation closer to customers resulting in improved power quality and reduced transmission losses; reduced greenhouse gas intensity of Australia’s electricity generation infrastructure; avoided network augmentation costs; the development of a local high-tech clean energy industry and increased employment in the energy sector; and the adoption of more efficient network tariffs.\(^{152}\)

However, the Secretary of the Department of Primary Industries, briefed the Committee that small-scale solar photovoltaic installations cannot be relied upon as a mainstay of Victoria’s future energy supply:

\[I \text{ have two views. The first is that where people are prepared to make the commitment on the grounds of their personal ethics and beliefs, that is to be encouraged and complimented. But as a large-scale solution to future energy needs, it is a very expensive one ... compared to the large-scale forms. The reasons are twofold. One is that large-scale solar captures the so-called economies of scale... Secondly most of the roofs of Victoria are not where the best sun is.}^{153}\]

Key planning approval and environmental assessment processes

Overview

The planning approval and environmental assessment processes for renewable energy projects in Victoria are complex – involving numerous government departments and agencies, sometimes processes concurrent, in a rapidly changing policy and regulatory environment. The associated suite of all legislation has been aptly described to the Committee as a ‘maze’. Renewable energy projects must undergo various approvals and assessment processes, principally: planning approvals; environmental assessment and approvals; works approvals; infrastructure approvals; heritage and Aboriginal impact approvals; further land approvals; and electricity and gas approvals.\(^{154}\) The processes discussed in this section relate to wind energy projects as no other large scale renewable energy projects have been through the full approval process to date in Victoria. Approvals processes for technologies other than wind are less developed or yet to be determined.

The Victorian Government’s submission advised that all municipalities are covered by land use planning controls which are prepared and administered by state and local government authorities. The legislation governing such controls is the Planning and Environment Act 1987. The Act empowers the Minister for Planning to prepare a set of standard planning provisions, Victorian

\(^{152}\) Alternative Technology Association, Submission on Renewable Energy (Electricity) Amendment (Feed-in Tariff) Bill 2008, annex I to submission no.26

\(^{153}\) Mr R Bolt, Secretary, Department of Primary Industries, briefing with the Environment and Natural Resources Committee – Melbourne, 22 June 2009

\(^{154}\) Department of Primary Industries, briefing with the Environment and Natural Resources Committee – Melbourne, 22 June 2009
Planning provisions (VPPs). The VPPs inform the construction of local government planning schemes, which control land use and development within a municipality.

The bodies controlling land-use planning are planning authorities and responsible authorities. A planning authority, which may be a local council or the State Government, generates land-use planning schemes and devises appropriate controls. A responsible authority, which is usually the local council, administers the planning scheme.

Renewable energy is explicitly included in the planning regime at the level of the State Planning Policy Framework, which ‘contains strategic issues of state importance which must be considered when decisions are made’. The State Planning Policy Framework, which applies to all planning schemes, promotes ‘the provision of renewable energy facilities in a manner that ensures appropriate siting and design considerations are met’. It includes the following statements regarding renewable energy:

Planning should facilitate renewable energy development in appropriate locations.

Planning should consider the economic and environmental benefits to the broader community of renewable energy generation and the effects on the local environment.

In planning for wind energy facilities, planning should:

- Facilitate the consideration of wind energy development proposals;
- Recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year and that such sites may be highly localised; and

In considering proposals for renewable energy, planning and responsible authorities should have regard to the Renewable Energy Action Plan, July 2006.

Land use and development requirements for large scale wind energy, geothermal energy and other renewable energy projects are stipulated in the Victorian Planning Provisions and all Victorian planning schemes. The primary planning policy guideline instrument is the Policy and Planning Guidelines for Development of Wind Energy Facilities (2009). This document is intended to give proponents, authorities and the Victorian community guidance in assessing wind energy proposals. The guidelines state that the ‘Victorian Government is committed to the development of appropriate wind farm facilities in the State’ and that ‘responsible authorities should endeavour to balance environmental, social and economic matters in favour of net community benefit and sustainable development.’ The guidelines outline a number of matters to be considered by responsible authorities in assessing permit applications for wind energy facilities. The guidelines...
outline matters to be considered by responsible authorities in assessing wind farm applications, including the State Planning Policy Framework and the impact of the proposed development on the landscape and visual amenity, the amenity of the surrounding area (including noise, blade glint, shadow flicker and electromagnetic interference), airline safety and flora and fauna impacts.\textsuperscript{161}

The guidelines have recently been reviewed and amended by the Department of Planning and Community Development.\textsuperscript{162} A number of people, for example Moyne Shire and Pacific Hydro, expressed their concern about the lack of opportunity to participate in the review. However the Department of Planning and Community Development advised the Committee that it did not embark on a public consultation program as the review was ‘more about providing an update to technical requirements rather than specific and broad policy changes’.\textsuperscript{163} The guidelines will be discussed in more detail in later chapters.

Wind energy facilities are prohibited in National Parks and land reserved under the \textit{National Parks Act 1975}. The exclusion of wind energy facilities from land protected under the National Parks Act means that wind farm construction is precluded on approximately 43 per cent of Victoria’s coastline.\textsuperscript{164}

The Committee was provided with the following diagram (figure 3.1) outlining the assessment process. The process has been amended slightly since the Victorian Government lodged its submission.\textsuperscript{165} The diagram sets out two stages to the assessment process. The first stage is pre-application consultation. The second stage may involve up to three different processes:

- \textit{Environment Protection and Biodiversity Conservation Act 1999} (Cth) process;
- \textit{Environment Effects Act 1978} (Vic) process; and
- planning permit process.

\textsuperscript{161} Department of Planning and Community Development, \textit{Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria}, September 2009, pp.27–33


\textsuperscript{163} Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009


\textsuperscript{165} The minor change involves proponents needing to include a peer reviewed visual impact assessment as part of the EES process
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Figure 3.1 The assessment process flowchart

Pre-application Consultation
With council, DPCD, DSE, relevant agencies and community

EPBC Act process
Applicant to determine whether referral required under EPBC Act

YES

Commonwealth determines whether proposal requires approval under EPBC Act

NO

State EES Process Accessed under EPBC Act

Scoping
Scoping evaluations for EES studies and report set by Minister

YES

Preparing the EES
Proprietor prepares the EES

NO

Separate process under EPBC Act

Public review
Exhibition of EES and lodgement of submissions

Decision
Minister’s decision on the need for an EES

NO

Fees apply to planning permit application

Further information
RA requests further information if required

Decision
Minister’s decision on proposal

Decision on EES informs planning permit application decision

Decision
RA decides application

VCAT review
If applied for by applicant or objectors

*1 Including a preliminary landscape assessment
*2 Including a peer-reviewed visual impact assessment
*3 No VCAT review available where Minister for Planning is the RA

DPCD – Department of Planning and Community Development
DSE – Department of Sustainability and Environment
RA – Responsible Authority
EPBC Act – Environment Protection and Biodiversity Conservation Act 1999
EES – Environment Effects Statement
VCAT – Victorian Civil & Administrative Tribunal

In practice there are four stages relating to the approval of wind farm projects. The third stage involves what proponents have described as a secondary consent phase. As Pacific Hydro explained:

The initial planning approval is really only an approval to plan. No works or construction of the wind farm project may be carried out, until further approvals have been gained. Comprehensive pre-construction conditions applied to Victorian wind energy facilities involve substantial additional investigations, the approval of specific management plans, and the satisfaction of other conditions before construction is permitted under a secondary consent. In some cases this task takes as long as, or even longer than the time taken to achieve the initial planning permit.166

The final stage includes monitoring, enforcement and decommissioning. Each of these stages is described in more detail below. The issues of cultural heritage and environment are discussed separately in chapters 7 and 8 of this report.

First stage: pre-application consultation

The amended Policy and planning guidelines for development of wind energy facilities in Victoria promote consultation with the community and key stakeholders prior to submitting a planning application for a wind farm facility.167 The guidelines state that ‘early consultation will assist in developing a well conceived proposal and may lead to a more efficient process’.168 Principles to guide consultation are listed, which include ‘starting early’, ensuring consultation is well planned, providing suitable opportunities for input by particular community and stakeholder groups and communicating effectively.169 Regulatory authorities are also involved in the pre-application stage of a project, as Mr Brett Stonestreet, the Chief Executive Officer of Moyne Shire Council explained:

Clearly before any formal application is submitted there is initial consultation with local communities by proponents for these projects and our council is invariably approached by those companies. As soon as a proponent approaches council of course there is discussion in the broader community about that project and what that might mean for them even prior to an application being submitted. Our council is, if you like, caught up in that process.170

The issue of community consultation and public involvement is discussed in detail in chapter 6 of this report.

Other aspects of the lengthy pre-application phase were described to the Committee by Mr Tim Knill, Manager of Power Development at AGL Energy:

When you find a greenfield site the first thing that really needs to be done is to get some land security…. Firstly we sign people up to a wind monitoring agreement, which gives you some exclusivity over the land and allows you to put up some wind monitoring equipment. If you find that it looks like a very good wind resources and for other reasons the project looks like it is going ahead, then you will change that agreement to a lease … You would normally need at least a year [for wind

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166 Pacific Hydro submission no.29, p.4
167 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, pp.17–18
168 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.18
169 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.18
170 Mr B Stonestreet, Chief Executive Officer, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.152
monitoring], because you want to get the seasonal variations. But if you can get over two years before you make your investment decision it is better.\textsuperscript{171}

Second stage: primary consent phase

There are a number of decision points which determine the process/es to be followed in the primary consent phase:

- the initial matter is to determine whether the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 is triggered;
- if the EPBC Act is not triggered the next decision is whether an Environment Effects Statement is required. The Committee was advised that EESs are now highly unlikely to form part of the assessment process;\textsuperscript{172}
- the third determining factor is the size of the renewable energy project.\textsuperscript{173} In general local councils are the responsible authority for projects with a capacity of less than 30 megawatts. The Minister for Planning is the responsible authority for projects over 30 megawatts. However the Minister may also ‘call-in’ a project of less than 30 megawatts.

Each process is explained below.

\textit{Environment Protection and Biodiversity Conservation Act process}

A proposal may need the approval of the Commonwealth Minister for the Environment under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) if it is likely to have a significant impact on matters of national environmental significance.\textsuperscript{174} The EPBC Act may apply to projects in Victoria independently of whether an EES is required.\textsuperscript{175}

The EPBC Act is the federal government’s central piece of environmental legislation.\textsuperscript{176} The Act applies to the following matters:

\begin{itemize}
  \item wind energy facilities that have a capacity of less than 30 MW;
  \item a utility installation outside a proposed wind energy facility and connecting the on-site metering point of output from the converter station to the existing electricity grid;
  \item an anemometer located on a site for 3 years or more; and
  \item native vegetation removal not directly related to the use and development of a wind energy facility.
\end{itemize}

Source: Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.21

\begin{itemize}
  \item Mr T Knill, Manager, Power Development at AGL Energy, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, pp.274–275
  \item Moyne Shire, Environment and Natural Resources Committee public hearing – Port Fairy, tabled document, The role of Moyne Shire in assessing and progressing renewable energy projects, 7 September 2009, p.3; Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.21
  \item Department of Environment, Water, Heritage and the Arts, Factsheet: Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
\end{itemize}
• world heritage sites;
• national heritage places;
• wetlands of international importance;
• nationally threatened species and ecological communities;
• migratory species;
• Commonwealth marine areas; and
• nuclear actions.\textsuperscript{177}

When a proponent proposes to take an action they believe may need approval under the EPBC Act, they must refer the proposal to the Commonwealth Minister for the Environment.\textsuperscript{178} This referral is then released to the public for comment on whether the project is likely to have a significant impact on matters of national environmental significance. Public comments which are relevant to the Act are taken into consideration. The Minister or his or her delegate will then decide whether the likely environmental impacts of the project are such that it needs to be approved under the Act.\textsuperscript{179} If the Minister determines that an approval is required, the proposed project must be assessed under the EPBC Act.

If approval is required under the EPBC Act, either an assessment process under that Act or an accredited process can be applied. Under a recent bilateral agreement between the Victorian and Commonwealth Governments, the Victorian EES process, Advisory Committee process,\textsuperscript{180} and planning permit process can all be accredited under the Bilateral Agreement. The Victorian Government can accredit either the EES or Advisory Committee process, while the Commonwealth would need to agree to the application of the planning panel process in specific instances. Regardless of the process used, the final decision under the EPBC Act rests with the Commonwealth Government.\textsuperscript{181} The practical effect of the bilateral agreement is that it is unlikely that any sort of major environmental assessment in Victoria will be subject to a separate process at the Commonwealth level.\textsuperscript{182}

The Department of Environment, Water, Heritage and the Arts has recently released a Wind Farm Industry Policy Statement to assist operators in the wind farm industry to decide whether or not proposed actions require assessment and approval under the EPBC Act.\textsuperscript{183} The most relevant

\textsuperscript{177} Department of Environment, Water, Heritage and the Arts, Factsheet: Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
\textsuperscript{178} Victorian Government, submission no.21, p.16
\textsuperscript{179} Department of Environment, Water, Heritage and the Arts, Factsheet: Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
\textsuperscript{180} Advisory Committees are a type of Planning Panel that considers either site specific issues or reviews policy matters.
\textsuperscript{181} Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.22
\textsuperscript{182} Ms N Rivers, Policy and Law Reform Director, Environment Defenders Office, Environment and Natural Resources Committee – Melbourne, 10 August 2009, transcript of evidence, p.87
\textsuperscript{183} Blake Dawson, 'New Policy Statement helps wind proponents decide whether to refer their projects under the EPBC Act' Environment Matters, 2 October 2009
matters in determining whether the EPBC Act applies to a wind farm development are threatened species and listed migratory species, particularly birds and bats.\textsuperscript{184}

Mr Jeffrey Gilmore, the Executive Director of Planning Policy and Reform at the Department of Planning and Community Development summarised the history of EPBC Act approval of Victorian wind farms as follows:

Approval under the EPBC Act was required for some coastal wind farms – for example, Portland and Bald Hills. To date, only one inland wind farm has required approval under this Act. The Mortlake wind farm has recently been determined to be a controlled action because of potential impacts on migratory species and a listed species, the southern bent-wing bat. It is likely there will be more controlled actions in the near future for inland wind farms, as a result of a recent EPBC listing of the following species in ecological communities – the southern bent-wing bat, grassy eucalypt woodland of the Victorian volcanic plain, and natural temperate grassland of the Victorian volcanic plain.\textsuperscript{185}

DPCD also advised that the Stockyard Hill wind farm was determined a controlled action on 15 July 2009 because of the potential impacts on listed migratory and listed threatened species.\textsuperscript{186}

The Environment Effects Statement process

The \textit{Environment Effects Act 1978} sets out a process for the assessment of projects by the Minister for Planning, that could have a significant affect on the environment.\textsuperscript{187} The environmental assessment involved in the preparation of an EES is not an approval process, but rather informs the decision maker as to whether the development should proceed.\textsuperscript{188}

Situations in which an EES may be required typically include where:

- there is a likelihood of significant adverse effects on the environment at the regional or state level;
- there is a need for an integrated assessment of the potential environmental effects of a project; or
- normal statutory processes would not provide a ‘sufficiently comprehensive, integrated and transparent assessment’.\textsuperscript{189}

\textsuperscript{184} Blake Dawson, ‘New Policy Statement helps wind proponents decide whether to refer their projects under the EPBC Act’ \textit{Environment Matters}, 2 October 2009; Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community, briefing to the Environment and Natural Resources Committee, 21 July 2009

\textsuperscript{185} Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community, briefing to the Environment and Natural Resources Committee, 21 July 2009

\textsuperscript{186} Department of Planning and Community Development, email, received 4 December 2009

\textsuperscript{187} Victorian Competition and Efficiency Commission, \textit{Inquiry into Environmental Regulation Issues Paper: Key Victorian Environmental Legislation}, p.25


The Minister for Planning is responsible for deciding whether an EES is required and if so, for providing the required assessment.

The main stages in the EES process that relate to wind farm applications in practice are as follows:

- Projects with potential adverse environmental effects that, individually or in combination, could be significant in a regional or state context, are required to be referred to the Minister for a decision as to whether an EES is required. Once an EES Referral is lodged with the Minister for Planning, decision makers under other Victorian legislation may be directed not to make a decision on the project until the need for an EES is determined.

- The Minister makes a decision on whether there is a need for an EES. In deciding whether an EES is required, the Minister must consider criteria set out in the relevant guidelines.

- There are three forms of response a Minister can make to an EES referral: an EES is required; an EES is not required if conditions specified by the Minister are met; or an EES is not required. The Guidelines state that the Minister will normally provide a response to a referral ‘within 20 business days of receiving a referral with adequate supporting information’.

- If an EES is not required, the application is dealt with through the planning permit application process outlined below.

Almost all wind energy projects in Victoria have been referred to the Minister under the Environment Effects Act for an assessment as to whether an EES is required, although the majority have not required the preparation of an EES. Since July 2006, proponents have been able to refer their proposals to enable a decision on the need for an assessment under the Act. The Committee understands that most wind farm referrals to the Minister have been made by proponents:

> Almost all major wind farm proposals over 30 megawatts in capacity have been referred to the Minister for Planning for a decision on the need for an EES, not because of their capacity per se, but because they have had a potential for adverse effects, such that the proponents have wanted the certainty of ministerial decisions. A few wind farms of less than 30 megawatts have also been referred. No wind farm referred since July 2006 has required an EES. Two out of the 12 have been subject to conditions... 

The Victorian Government submission states that the most relevant criteria in assessing whether an EES is required are potential extensive or significant effects on landscape values of regional importance and the potential loss of a significant proportion of a known remaining habitat of a
population or threatened species. A referral for a wind farm must include a preliminary landscape assessment.

Early wind farm proposals in Victoria required EESs because of their potential affects on sensitive coastal landscapes – for example, Portland and Nirranda – or on threatened species, for example, at Bald Hills. The Policy and Planning Guidelines state that ‘it is anticipated that most wind energy facilities can be adequately assessed through the planning permit process.’ Given that an EES is unlikely to be required, a number of participants in the inquiry have queried why it remains a part of the approval process.

If the project requires an EES, opponents can express their views to the Planning Panel, with the final decision made by the Minister for Planning.

**Planning permit process**

A planning permit is ‘a legal document that gives permission for a use or development on a particular piece of land.’ A permit usually contains written conditions and includes endorsed plans which show what is to be built and how the land can be used. A planning permit is required to use and develop land for a wind energy facility under all Victorian planning schemes. The process of applying for and deciding planning permits is regulated by the Planning and Environment Act 1987 (Vic). Grid connection applications for wind farms are usually the subject of a separate planning process.

Planning permit applications for wind energy facilities are lodged with the relevant responsible authority – either the local Council or the relevant regional DPCD office – depending on the size of the project, as illustrated in figure 3.2. While Victorian Councils are responsible for wind energy facilities that have a capacity of less than 30 megawatts, the Minister for Planning may ‘call-in’ a planning permit application yet to be decided by a Council where the Minister considers the proposal to be of State or regional significance. A permit ‘call-in’ requires the appointment of a Planning Panel under the Planning and Environment Act. If an application is ‘called-in’, the decision maker or ‘responsible authority’ in relation to the permit application is the Minister.

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198 Mr J. Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
199 Mr J. Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
200 Mr J. Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
204 Mr J. Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009
206 Victorian Government, submission no.21, p.13
When all of the relevant planning permit information has been received, the responsible authority will proceed with the public notification and referral requirements. Requirements for giving notice of a proposal are set out in the *Planning and Environment Act 1987*. The Act provides for applications to be referred to authorities specified in the planning scheme. Most applications will also be advertised, unless the responsible authority is satisfied that granting a permit will not cause material detriment to any person, or the planning scheme says that advertising is not required. Arrangements regarding giving notice about applications vary between councils.

After the notice and referral requirements have been completed, and any submissions received, the responsible authority will determine the application. If council is the responsible authority:

*The council planner will prepare a report that describes the application, the relevant policies and planning scheme requirements, the assessment process, the number and nature of the objections and the response to them, and referral comments. They then make a recommendation based on a professional assessment of the application.*

The council may decide to grant or refuse a permit. Where the council is the responsible authority, the Victorian Civil and Administrative Tribunal (VCAT) can hear appeals in relation to the council’s decision in the following circumstances:

- if an objector has lodged an application for review within 21 days of the council issuing notice that it has decided to grant the permit;
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- if the council fails to make a decision about the application within 60 days, the permit applicant can apply to VCAT for review; and
- if the council refuses to grant the permit, the permit applicant has 60 days to apply to VCAT for a review of the refusal.\(^{211}\)

Where the Minister for Planning is the responsible authority and objections and submissions have been received, the Minister must refer the proposal to a Planning Panel.\(^{212}\) Panels are appointed to give independent advice to the Minister about a proposal and about the submissions referred to it. The report issued by the Panel will make recommendations for consideration by the relevant planning authority and/or the Minister.\(^{213}\) The Minister is not bound to accept any of the Panel’s recommendations. Further the Minister is not subject to any time-limits in making his or her decision.\(^{214}\) There are no appeal rights to VCAT from the Minister’s decision.

If the Minister is the responsible authority for a wind energy facility and additional approvals are required, the Minister will consider those additional approvals in combination with the planning permit application:

> Where the Minister is the responsible authority for a wind energy facility and where works, such as native vegetation removal or main road access require separate planning approval the Minister will consider all planning approvals relevant to the wind energy facility at the same time. For example, the placement of a wind turbine may require the removal of native vegetation. Provided the works are required as part of the development of a wind energy facility, a separate permit application is not required to be submitted to the local council.\(^{215}\)

A permit or notice of decision for a wind energy facility will usually include conditions relating to noise, lighting of turbines, environmental management, decommissioning and rehabilitation requirements.\(^{216}\)

### Third stage: secondary consent phase

After a permit has been issued, a number of plans will need to be prepared by the applicant and approved by various authorities, including:

- the final design plans for the project;
- a traffic management plan;
- landscape and visual screening plans;


\(^{212}\) Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009


\(^{214}\) Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24, pp.6–7


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• environmental management plans, consisting of
  – a construction and work site management plan;
  – a sediment, erosion and water quality management plan;
  – a blasting plan (if required);
  – a hydrocarbon and hazardous substances plan;
  – a wildfire prevention and emergency response plan;
  – a native vegetation management plan;
  – a pest animal management plan;
  – a training program for construction workers and permanent employees;
  – a program for reporting environmental incidences, non-conformances, complaints and corrective actions;
  – a detailed noise complaint evaluation and response plan;
  – a complaint evaluation and response process for shadow flicker; and
  – a timetable for the implementation of the environmental management plan;
  – a program for reporting environmental incidences, non-conformances, complaints and corrective actions;
  – a detailed noise complaint evaluation and response plan;
  – post-construction noise monitoring program and report;
  – a timetable for the implementation of the environmental management plan;
  – a complaint evaluation and response process for shadow flicker; and

• television and radio reception interference plan.217

In cases where the Minister issues a planning permit as the responsible authority, it is council’s role to process and approve information related to permit conditions. The only exception is where a Minister has ‘called-in’ a permit application and issued the permit with conditions that require a matter to be performed to the Minister’s satisfaction.218 Moyne Shire has described the documentation that is lodged with them, and the resources required to process it, as follows:

Any planning permit that is issued for a major wind farm, or gas power station for that matter, involves a number of conditions of consent. Several of those conditions involve preparation of various documents that are to be prepared by the proponent to the satisfaction of either the local planning authority or the minister. Those documents come thick and fast through our office.

I indicate one example of that is the Macarthur/Hawkesdale wind farm development, for which a planning permit was issued probably five or six months ago – some time ago. In terms of the council’s involvement, though, something like 800 or 900 pages worth of documentation followed the formal issuing of the planning permit which our council needed to take account of.219

217 Moyne Shire, Environment and Natural Resources Committee public hearing – Port Fairy, tabled document, The role of Moyne Shire in assessing and progressing renewable energy projects, 7 September 2009, pp.4–5
218 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.34
219 Mr B Stonestreet, Chief Executive Officer, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, pp.152–153
Fourth stage: monitoring, enforcement and decommissioning

According to the Policy and planning guidelines for development of wind energy facilities in Victoria, 'regardless of whether a permit is granted by the Minister as responsible authority or by the Minister after a 'call-in' from the responsible authority, the local council is responsible for enforcement of permit conditions.'²²⁰ Moyne Shire highlighted some concerns with this current arrangement:

> If a complaint is lodged about shadow flicker, the Council will have to investigate, resolve the matter, hopefully via the agreed process, or take further action as required by the Planning Act. However, for a shadow flicker complaint, the Council may not have been involved, even seen the agreement and plans it has to enforce, and it is unclear if and how the Council is intended to be able to access the required information.²²¹

A model planning permit for wind energy facilities, available on the DPCD website, includes the following clause for decommissioning wind farms:

The wind energy facility operator must, no later than 2 months after any or all wind turbines have permanently ceased to generate electricity, notify the Minister for Planning in writing of the cessation of the use. Within a further 12 months of this date, the wind energy facility operator, or in the absence of the operator, the owner of the land on which the relevant turbine(s) is/are located, must undertake the following to the satisfaction of the Minister for Planning within such timeframes as may be specified by the Minister:

- remove all above ground non-operational equipment;
- remove and clean up any residual spills or contamination;
- rehabilitate all storage, construction, access tracks and other areas affected by the project closure or decommissioning, if not otherwise useful to the ongoing management of the land associated with the use, development and decommissioning of the wind energy facility;
- submit a decommissioning traffic management plan to the Minister for Planning and, when approved by the Minister for Planning, implement that plan; and
- submit a post-decommissioning revegetation management plan, including a timetable of works to the Minister for Planning and, when approved by the Minister for Planning, implement that plan.²²²

Ongoing reviews of key planning and environmental approvals

The Victorian Competition and Efficiency Commission (VCEC) has completed an inquiry which seeks to identify opportunities for improving the efficiency of environmental regulation without comprising the Victorian Government’s environmental objectives.²²³ According to the Victorian Government:

²²⁰ Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.34
²²¹ Moyne Shire, Environment and Natural Resources Committee public hearing – Port Fairy, tabled document, The role of Moyne Shire in assessing and progressing renewable energy projects, 7 September 2009, p.8
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The intent of the review is to identify opportunities for improving environmental regulation by, for example, reducing administrative and compliance burdens; reducing any overlap and duplication of Federal, state and local government regulation; reducing regulatory barriers to growth in areas of the economy that are responding to the emerging environmental sustainability challenges and improving institutional arrangements.²²⁴

The VCEC released a draft report in March 2009 for further consultation. The final report has been submitted to the Treasurer’s office. The VCEC draft report found that:

Despite some important regulatory changes to facilitate the introduction of new technology, particularly in the area of electricity generation and distribution, Victoria faces regulatory barriers to innovation and to approval processes for major projects, including renewable energy…²²⁵

The VCEC made a number of recommendations to government, including: that the Victorian Government:

• apply time limits to each stage of the environmental assessment and planning permit processes for wind energy projects, some of which would be statutory and others negotiated at the start of the process. There could be protocols for giving advance notice of delays and revisions to the agreed schedule.

• report publicly the time taken for each stage of the process and reasons for any delays.

• ensure that performance against these timelines is assessed regularly by an independent agency, such as the Victorian Auditor-General (draft recommendation 14.2).²²⁶

The VCEC also canvassed the option of applying the EES process or amended EES process to wind power projects.²²⁷ The Commission sought further input on the costs and benefits of the Government supporting the development of renewable energy projects in national parks, when they have received favourable assessment under the existing environmental assessment processes.²²⁸

The government released its response to the final VCEC report in January 2010. This is discussed in chapter 8 of this report.

The Planning and Environment Act 1987 is currently undergoing a review process with the objectives of modernising the Act and enhancing the operation of Victoria’s planning system. A discussion paper, Modernising Victoria’s Planning Act, was released in March 2009. DPCD subsequently developed five response papers, which set out the proposed changes to the Planning and Environment Act.²²⁹ The response papers include proposals to amend the objectives of planning in Victoria to incorporate references to a healthy environment and to recognise the importance of sustainable and high quality design;²³⁰ creating two assessment tracks for planning permits;²³¹ and

²²⁴ Victorian Government, submission no.21, pp.24–25
²²⁹ Department of Planning and Community Development, Introduction to the Response Papers, August 2009
²³⁰ Department of Planning and Community Development, Response Paper No.1: The Objectives of Planning, August 2009, p.2
²³¹ Department of Planning and Community Development, Response Paper No.3: The Permit Process, August 2009, pp.3–4
for a new state significant development assessment project to be included in the Act. An exposure draft of the amendments proposed as a consequence of the review was released in December 2009. The implications of these changes for large renewable energy projects are discussed in chapter 5 of this report.

Other relevant best practice guidelines that will be discussed further in this report including Best Practice Guidelines for Implementation of Wind Energy Projects in Australia (AusWind, 2006), Report on Impediments to Environmentally and Socially Responsible Wind Farm Development (Environment Protection and Heritage Council, 2006) and National Wind Farm Development Guidelines - Public Consultation Draft (Environment Protection and Heritage Council, 2009).

Geothermal energy approvals

The Geothermal Energy Resources Act 2005 is the statutory regime which governs the allocation of titles, negotiation of land access and exploration and extraction for the geothermal energy sector in Victoria. Geothermal exploration permits are allocated through a public tender process. Exploration permits with work program commitments of nearly $400 million cover about 70 per cent of the state.

Regulatory regimes for the geothermal industry differ between states. The Australian Geothermal Energy Association and the Department of Resources, Energy and Tourism have observed that:

Harmonisation of the licensing and permitting regimes across states and territories would have the benefit of allowing geothermal resources to be viewed and assessed purely on the merits of the resource potential and proximity to appropriate infrastructure and load centres, as opposed to how conducive the legislation is in a particular jurisdiction.

Geothermal energy extraction is defined in the Victorian Planning Provisions as follows:

Land used for the purpose of extracting geothermal energy or geothermal energy resources for the purpose of capturing the heat energy from the resources in accordance with the Geothermal Energy Resources Act 2005. It includes any activity incidental to this purpose including the construction and operation of pumps and pipes within the area in which the geothermal energy or geothermal energy resources are being extracted.

Geothermal energy exploration and extraction provisions were introduced into the Victoria Planning Provisions in 2006 following the Geothermal Energy Resources Act 2005. To avoid unnecessary duplication of regulatory approval processes a planning permit is not required where:

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232 Department of Planning and Community Development, Response Paper No.4: State Significant Major Development, August 2009
235 Department of Primary Industries, Victoria, Australia: An emerging geothermal province, May 2009
237 Victorian Planning Provisions, Definitions, clause 74
238 Victorian Government, submission no.21, pp.14–15
• a permit has been granted for geothermal energy exploration under the Act; or
• an Environment Effects Statement has been prepared and the Minister administering the Act after considering the assessment, authorises the holder of an extraction licence issued under the Act to carry out the geothermal energy extraction operation. 239

The removal of native vegetation is regulated by the Geothermal Energy Resources Act 2005 and so a separate planning permit for the removal of native vegetation is not required.240

Other renewable energy project planning approval processes

The development of forms of renewable energy other than wind is still in its infancy in Victoria. In its submission to the inquiry, the Victorian Government observed that:

The impacts associated with these ‘new’ types of renewable energy technology are not as well understood as the established wind and geothermal sectors and accordingly specific statutory provisions, policy and guidance has not been developed …

The introduction of other forms of large scale renewable energy technology [other than wind and geothermal] to Victoria brings with it new land use and development issues that the planning system has not previously considered. Issues could include physical and social impacts, i.e. visual impacts associated with solar energy projects, or legislative considerations, i.e. the adequacy of legislation to assess ‘land use’ impacts for projects based off-shore or in the inter-tidal zone. These impacts have the potential to be significant and will necessitate separate and specific consideration. The assessment of these matters will influence how these renewable energy facilities are treated in the planning system.241

A proposed large-scale 154 megawatt solar photovoltaic power station in north-west Victoria has been approved, although it involved a site specific amendment by the Minister for Planning.242

With regards to marine energy, the Department of Sustainability and Environment has initiated a whole of government approach to the planning and development issues associated with marine energy in Victoria.243 An EES referral was received from the marine energy developer, Oceanlinx, for its proposed Portland wave energy facility, but the Committee understands that it was withdrawn as a consequence of investment uncertainty associated with the global financial crisis.244 However, one or more referrals from wave energy proponents were anticipated at the end of 2009.245 No referrals have been received to date.

239 Victorian Government, submission no.21, pp.14–15
240 Victorian Government, submission no.21, pp.14–15
241 Victorian Government, submission no.21, p.15
242 Victorian Government, submission no.21, p.15
243 Mr P Harris, Secretary, Department of Sustainability and Environment, briefing to Environment and Natural Resources Committee, 21 July 2009
244 Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009; Oceaninx, personal communication, 12 January 2009
245 Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
The VPPs were amended in September 2009 to insert application and decision making requirements for proponents and decision makers for renewable energy facilities, other than wind energy facilities and geothermal energy extraction projects.246

Regulation of the Victorian energy sector

Electricity is a secondary energy source, which is produced by the conversion of other energy sources such as coal, natural gas, oil, or renewable sources, like the wind and the sun.247 The process by which electricity is transmitted from the generator to the consumer is described by the Australian Energy Market Operator (AEMO) as follows:

"Electricity travels along a conductor at close to the speed of light. When an appliance is switched on, power is instantly transmitted from a power station to the appliance. Although this occurs instantaneously, a specific sequence of events takes place to ensure the delivery of the required electricity.

A transformer converts the electricity produced at a generation plant from low to high voltage to enable its efficient transport on the transmission system. When the electricity arrives at the location where it is required, a substation transformer changes the high voltage electricity to low voltage for distribution. Distribution lines then carry low voltage electricity to consumers."248

A diagram of the transport of electricity from power plant to consumer is provided at figure 3.3:

Figure 3.3 Transport of electricity

![Diagram of the transport of electricity](image)


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246 Department of Planning and Community Development, Particular Provisions: Renewable Energy Facility (other than wind energy facility and geothermal energy extraction), Victorian Planning Provisions, clause 52.42
The electricity transaction is ‘a complicated one, involving a myriad of relationships between different market participants, ranging from ... generators through [to the] transmission, distribution and retail supply of electricity to meet the essential services demands of end users.’

Because all Australian states, except Western Australia, participate in a National Electricity Market (NEM), complex relationships exist both within and across jurisdictions between different regulatory bodies, market participants and network services providers.

The Victorian energy sector cannot be considered in isolation from the NEM. This section therefore gives an overview of the NEM, and introduces the new Australian Energy Market Operator (AEMO). The section then focuses on the Victorian energy sector, outlining current infrastructure and key market participants, referring to the government’s energy objectives, describing the privatised nature of the electricity system in the state and discussing the processes and organisations involved in connecting renewable energy generation to the grid. The section concludes with an update of recent reviews conducted in relation to the energy sector and developments in relevant energy sector policy.

Introduction to the National Electricity Market

Victoria’s energy sector is part of the National Electricity Market (NEM), which is a wholesale market for the supply of electricity to retailers and end-users in Queensland, New South Wales, the Australian Capital Territory, Victoria, South Australia and Tasmania. The NEM is the product of extensive reform in the Australian energy sector over the past few decades:

In the 1970s the Australian energy sector consisted of vertically integrated, state-owned monopoly utilities such as the State Electricity Commission of Victoria and the Electricity Commission of New South Wales. For the most part, state-based monopolies operated discrete electricity supply regimes and were solely responsible for the generation, transmission and delivery of electricity to all end-users, within the confines of their geographic territory... Establishing a national electricity market required the nine Australian governments to adopt a co-ordinated, coherent approach to energy matters. Progressively dismantling existing vertically integrated, state-owned energy facilities, separating ownership of generation, transmission and distribution functions and corporatisation and/or privatisation of publicly owned generation and distribution assets were central to achieving a workable single national electricity market... By the mid 1990s a national energy reform agenda had emerged, part of which endorsed the introduction of competition into the electricity sector and focused on the establishment of a uniform, single wholesale electricity market in eastern and southern Australia... The NEM formally commenced operating on 13 December 1998...

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250 Australian Energy Market Operator, An Introduction to Australia’s National Electricity Market, July 2009, p.4

The objective of the NEM is described in the National Electricity Law:

… to promote efficient investment in, and efficient use of electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity and the reliability, safety and security of the national electricity system.\(^{252}\)

The NEM enables exchanges between electricity producers and consumers through a pool, in which the output of all generators is combined and then scheduled to meet demand. The pool is not a physical location, but rather an artificial construct which involves the Australian Energy Market Operator (AEMO) managing a set of procedures to coordinate generation and demand, in accordance with the National Electricity Law and Rules.\(^{253}\) As a consequence, energy can be transported across states participating in the NEM, so that, for instance, energy generated in South Australia can be consumed in Victoria.

Since 1 July 2009, AEMO has taken over the role of the operator of the National Electricity Market. The role was previously carried out by a number of bodies including the National Electricity Market Management Company (NEMMCO), VENCorp (Victoria), Gas Market Company (NSW and the ACT), REMCo (South Australia) and the Gas Retail Market Operator (Queensland). For the first time, gas and electricity market operations and planning functions in the NEM are all being delivered by one organisation. In order to connect to and participate in the national electricity system, generators of greater capacity than five megawatts must register with AEMO.\(^{254}\)

AEMO has also taken on a new responsibility as National Transmission Planner in relation to the planning and development of the national electricity transmission grid. In this role, AEMO’s key responsibility is the preparation of the National Transmission Network Development Plan in order to help ensure that local network investments contemplate the broader strategic direction of the network and guide appropriate investment in network infrastructure and promote efficiency savings.\(^{255}\) In addition, AEMO has a planning and procurement role within Victoria, which is unique to the State, discussed in further detail below. AEMO’s charter ‘focuses specifically on efficiency, security and reliability of power supply and excludes favouring one fuel source over another’.\(^{256}\) As a consequence, considerations of environmental sustainability are outside AEMO’s scope of authority.\(^{257}\)


\(^{253}\) Australian Energy Market Operator, An Introduction to Australia’s National Electricity Market, July 2009, p.4

\(^{254}\) National Electricity Market Management Company, submission no.16, p.1

\(^{255}\) Victorian Government, submission no.21, p.23

\(^{256}\) Australian Energy Market Operator, An Introduction to Australia’s National Electricity Market, July 2009, p.22

The Victorian energy sector

Existing electricity infrastructure in Victoria

The development of Victoria's electricity infrastructure has been dominated by coal-fired power. As a consequence, power stations in the Latrobe Valley are central to the energy network that transports electricity around the state. High capacity transmission lines extend from the Latrobe Valley into Melbourne and from there to the north and west of the state. There are additional interconnect lines into New South Wales and South Australia, and a major 500 kV line from Melbourne to Portland.

The original government owners of the grid designed it so that it could transport electricity from large-scale, conventional power stations over long distances to major customer 'load centres'. Victoria's transmission system was developed on the assumption that 'all generation was large, fully controllable and operated by large energy businesses with the facilities required for continuous interaction with the system operator'. Mr Terry Teoh, Executive Manager of Development at Pacific Hydro, noted in his evidence to the Committee, 'with transmission the conundrum we have is that the infrastructure we have ... was laid down for centralised generation over 100 years, and as the energy transition kicks in we will be propelled to a new fuel mix but also to a radically different topography in our networks.' Renewable energy providers therefore encounter a number of issues in attempting to connect to the grid, including a lack of transmission infrastructure in remote areas, where the best renewable resources are often located, and the intermittency and unpredictability of wind power generation which requires greater flexibility from the network. One possible solution is a 'smart grid', which enables the consumption and generation ends of the grid to communicate with each other, enabling a greater degree of control to be exercised over electricity flows.

Participants in Victoria's electricity system

Key players in the Victorian electricity system can be broadly described as follows:

- **Generators**: refer to both the infrastructure and the company which owns the infrastructure. The term is interchangeable. Generators generate power, which then goes through the transmission network, and is sold through the NEM spot market. Market generators may be scheduled or unscheduled or are specifically classified as non-scheduled due to the intermittent nature of their generation (i.e. wind). Examples of major Victorian generators are Loy Yang A (owned by AGL, TEPCO, Transfield Services and others); Yallourn (owned by TRUenergy) and Hazelwood (owned by International Power and the Commonwealth Bank).

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258 Mr M Murphy, ‘Victoria Unplugged’, The Age newspaper, 3 February 2009, p.9
259 NewEn, submission no. 17, p.2
261 Clean Energy Council, Clean Energy Factsheet: All About Systemic Barriers, 2007, p.1
262 Mr Terry Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16
263 Mr G Parkinson, ‘Transmission and Storage Key to Renewable Energy’ The Australian newspaper, 1 October 2009, p.2
264 Which means that their aggregate generation capacity is more than 30 MW
265 Which means that they have an aggregate generation capacity of less than 30 MW
• **Transmission Network Service Providers**: own and operate high voltage transmission towers and wires that transport electricity. In Victoria, the transmission network asset owner is SP AusNet.

• **Distribution Network Service Providers**: owners and operators of the substations and the wires that transport energy from distribution centres to end use consumers; providers of technical services, including construction of power lines, inspection of equipment, maintenance and street lighting. There are five distribution network service providers in Victoria: CitiPower and Powercor, Jemena, United Energy and SP AusNet.

• **Retail companies**: which buy electricity in the wholesale National Electricity Market, and produce a package of transmission and distribution services for sale to the consumer. Victoria has 29 licensed retailers, including Origin Energy, AGL Energy and TRUenergy.

• **AEMO**: energy market operator (see above), which combines the functions of electricity and gas market operator, transmission planner and also has a role in the Victorian system of planning and procuring transmission connections.

• **the Australian Energy Regulator**: which has responsibility for economic regulation and market rule enforcement. One of the AER’s roles is to determine the revenues with transmission infrastructure providers, such as SP Ausnet, should receive for building more infrastructure. These costs are ultimately passed on to consumers.

• **the Australian Energy Market Commission (AEMC)**: which is responsible for rule-making and energy market development in the National Electricity Market.

• **the Ministerial Council on Energy (MCE)**: which is responsible for policy making.

• **Essential Services Commission**: issues permits for transmitting, distributing and generating electricity for supply or sale under the *Electricity Industry Act 2000*.

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**Victorian energy policy**

According to the *Climate Change Green Paper*, released in 2009, the Victorian Government’s ‘main objectives for the stationary energy sector into the future’ are to:

• support the provision of an efficient, reliable, safe and secure energy system that recognises and addresses the need to reduce greenhouse gas emissions;

• maintain access to energy by ensuring a fair, competitive market;

• promote energy supply and use that is environmentally sustainable and less greenhouse intensive; and

• address planning barriers to the promotion and uptake of low carbon energy forms.

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These objectives are similar to the energy objectives that have underpinned Government policy since 2002, with the most significant distinction being a greater emphasis upon environmental sustainability and reducing greenhouse gas emissions.267

The Department of Primary Industries has observed that these energy policy objectives can be in competition with each other.268 In addition to balancing energy objectives, the Secretary of the Department of Primary Industries, Mr Richard Bolt, advised the Committee that the energy sector is ‘facing considerable drivers for change in a number of respects.’269 He explained that the Victorian Government is –

... expecting a major transformation of the energy sector over the next significant period – several decades – and renewable energy will be a large part of that transformation, along with carbon capture and storage, the greater use of gas, and we would have thought, increased saving of energy but nevertheless in the context of an economy which we expect to keep growing.270

As part of its response to transformations in the energy sector, the Victorian Government plans to release a ‘Future Energy Statement’. In its submission to the inquiry, the Victorian Government described the proposed statement as follows:

This statement aims to ensure a secure and reliable energy supply for Victoria while achieving reductions in greenhouse gas emissions in the most cost effective way. The primary aims of this statement are to tell the story of Victoria’s energy future to better engage the Victorian community, and to outline the Government’s plan to ensure a secure, reliable and sustainable energy supply during the transition to a carbon-constrained economy.271

The release of the policy statement has been delayed until 2010 because the emissions trading scheme has yet to be finalised.272 According to recent media articles, Cabinet documentation relating to the Future Energy Statement noted that:

- renewable energy will progressively replace fossil fuel energy but ‘we will rely on renewables and fossil energy for decades’;
- the Government will help establish large scale solar power plants and ‘explore the scope’ for geothermal and bioenergy;
- energy supplies will become increasingly diverse and dispersed across the eastern states. While focussing on coal, the Government supports ‘rapid expansion’ of wind power due to the federal 20 per cent renewable energy target – despite there being a risk of ‘heightened community opposition’ due to local community groups banding together;

267 Victoria’s 2002 energy policy identified the following objectives: Ensure an efficient and secure energy system; Ensure those supplies are delivered reliably and safely; Ensure consumers can access energy at affordable prices; and Ensure our energy supplies and the way we use them are environmentally sustainable – and in particular less greenhouse intensive: Minister for Energy and Resources, Energy for Victoria: A Statement by the Minister for Energy and Resources, Department of Natural Resources and Environment, 2002, p.5.

268 Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

269 Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

270 Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

271 Victorian Government, submission no.21, p.22

272 A Morton, ‘Clean coal crucial: Brumby’, The Age newspaper, 5 November 2009, p.2
• no mention is made of the role of household level attempts to cut emissions, such as with rooftop solar panels. But the documents indicate that emissions trading will trigger a boost in energy saving by households and businesses as energy prices go up; and
• market research is quoted that found Victorians take their energy supply for granted and have a poor understanding of how it works. The need for an education campaign to explain dramatic changes coming in the electricity sector has been raised.273

Victoria's privatised energy sector

The Victorian energy sector was privatised in the 1990s, following the disaggregation of the formerly vertically integrated State Electricity Commission of Victoria (SECV).274 The privatisation of Victoria’s electricity system distinguishes it from other states, where the governments own the transmission and distribution system.275

The role of the Victorian Government in the energy sector has been transformed as a consequence of disaggregation and privatisation. Rather than directly managing energy monopolies, the government now sets policy objectives on behalf of the community and manages the new statutory framework governing the energy market.276 A comparative perspective between Victoria and other jurisdictions is shown at figure 3.4:

Figure 3.4  Table comparing state ownership of the transmission system

<table>
<thead>
<tr>
<th>Owner and operator of transmission network</th>
<th>Victoria</th>
<th>Other States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Privatised</td>
<td>SA – privatised</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others – government owned</td>
</tr>
<tr>
<td>Transmission planner</td>
<td>AEMO (not for profit)</td>
<td>AEMO/Transmission businesses</td>
</tr>
<tr>
<td>Transmission procurer</td>
<td>AEMO (not for profit)</td>
<td>Transmission businesses</td>
</tr>
</tbody>
</table>

Source: Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009

Due to its privatised and disaggregated nature, Victoria’s transmission system is planned by an independent organisation, AEMO. Other states use AEMO as a national planner, while their transmission businesses, which are usually still government-controlled, continue to exercise a planning role within their jurisdiction. By contrast, in Victoria, AEMO plans within the State as well as planning flows of electricity between jurisdictions. Thus, in Victoria, augmentation to the transmission network is directed by AEMO, rather than by a transmission asset owner.

274  Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 22 June 2009
275  The only exception to that is South Australia, which is almost a hybrid between the Victorian approach and that adopted in the other states: Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 21 July 2009
276  Department of Primary Industries (previously the Department of Natural Resources and Environment), Energy for Victoria: A Statement by the Minister for Energy and Resources, 2002, p.7
Connections to the transmission network: Victoria’s plan and procure model

Connections to the electricity system in Victoria are governed by a complex and multi-layered regulatory regime, which includes the National Electricity Law, the National Electricity Rules, the Victorian Electricity Industry Act 2000, the transmission licences of system participants, and the Victorian System Code. These rules set out the role and obligations of AEMO as planner, and SP Ausnet, as transmission network asset owner in relation to connecting generators to the transmission network. In particular, the regulatory regime sets out technical standards which must be applied to the connection of new generation to the grid. AEMO explains that this is because:

> The interactions between new generation and the rest of the power system must be coordinated so that levels of quality and reliability of supply can be maintained. For this reason, the National Electricity Rules ... include processes to coordinate the technical interaction between new generation and the power system.\(^{277}\)

The regulatory regime must also strike a balance between generators and consumers as to who pays for the connection of new generation. While that balance is decided at the level of policy and regulation by the Victorian Government, it is incorporated into a test that is applied by AEMO in order to determine how the costs of the network augmentation should be apportioned between a new generator proponent seeking to connect to the network and consumers of electricity in Victoria.\(^{278}\)

There are two types of transmission assets. The first is associated with the connection of a particular renewable generator, and is specific to that generator. The second is associated with connection to a shared transmission system, the services of which can be made available to other generators.\(^{279}\)

As Victoria’s independent transmission planner, applications for new connections to the transmission system are made by proponents to AEMO. According to Victoria’s ‘plan and procure’ model for transmission augmentation, AEMO will then plan network augmentation and facilitate the procurement of additional infrastructure from asset owners, usually SP Ausnet although other companies are able to bid.\(^{280}\) This ‘plan and procure’ model is intended to bring independence and transparency to decisions about the nature and cost of transmission augmentations as Ms Lourey explained to the Committee:

> You may ask why we adopted a different approach with this plan and procure model. The main reasons were to deliver more efficient outcomes and to address market failures. In terms of more efficient outcomes, the independent planner does not favour any particular solution, whereas a transmission business if it is determining what augmentation occurs, will always favour augmenting the transmission network rather than, for example, putting in more generation, because effectively a generation solution can compete with a transmission solution. What the independent planner can do is effectively trade off those options and direct for the most efficient outcome for society. It is considering beyond just the state boundaries. It is considering the network as a whole.\(^{281}\)

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\(^{278}\) Department of Primary Industries, personal communication, 6 November 2009

\(^{279}\) Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 21 July 2009

\(^{280}\) Victorian Government, submission no.21, p.20

\(^{281}\) Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 21 July 2009
Due to the differences in Victoria’s ‘plan and procure’ model from other states, and in particular because of confusion around the distinction between AEMO and SP Ausnet, the Victorian Government has informed the Committee that it is considering producing an updated set of grid connection guidelines, in order to clearly explain to proponents what is unique about the Victorian system, in comparison with other states. The Committee understands that these guidelines are at the development stage.

A schematic diagram of the process for applying for connection to the transmission system is shown at figure 3.5:

**Figure 3.5 Process of connecting to the transmission network**

*National Electricity Rules*

![Diagram of connection process]

**Connection Processes**

Source: Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009

The new generator proponent will submit a connection request to AEMO, which will plan the connection and then direct the transmission network asset owner, SP Ausnet, to build the connection. SP Ausnet will then commence a competitive process to select the contractors who will construct the line. Various contracts are entered into between the parties involved.

**Connecting to Victoria’s distribution network**

Rather than connecting to the high voltage transmission network, new generation may connect to the distribution system. Typically wind farms up to 100 megawatts will seek to connect to the distribution network, which comes with a cheaper connection cost than the transmission network.

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282 Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 22 June 2009

283 Department of Primary Industries, personal communication, 6 November 2009

284 Ms M Lourey, Executive Director, Energy Section Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee - Melbourne, 21 July 2009

285 Mr N Watt, Manager Network Assets, Strategy and Performance, CitiPower and Powercor, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, Melbourne, transcript of evidence, p.22
Where the connection is to the distribution system, as opposed to the transmission system, a new generator must make their connection application to the appropriate distribution network service provider, which must use its best endeavours to connect the new generator to the network.\textsuperscript{286}

Climate change and renewable energy policies have dramatically increased the connection enquiries received by some distribution companies in Victoria.\textsuperscript{287} In their submission to the inquiry, two of Victoria’s distribution network service providers, CitiPower and Powercor observed that:

> The recent government climate change and energy efficiency initiatives and renewable energy targets (RETs) have also increased the applications and enquiries from wind generators seeking connection to the Businesses’ distribution systems. The nature, and impact, of wind generators on the surrounding environment means that the location of existing and proposed wind farms tends to be in remote areas where the customer density is relatively low. These areas, such as the southwest of Victoria, are however, characterised by sparse low capacity electrical infrastructure which is not configured or constructed to accommodate large quantities of distributed generation.\textsuperscript{288}

CitiPower and Powercor advised the Committee that historically they have not built or planned their systems to accommodate the high levels of connection enquiries and applications that are resulting from climate change and renewable energy policies.\textsuperscript{289} They have been ‘constrained’ in approving a number of connection applications due to the risk that they may reach technical limitations on their distribution systems and because limitations on existing rural distribution infrastructure results in potentially high costs for connections, limited connections or connections not proceeding at all.\textsuperscript{290} If there is insufficient capacity in the existing shared network, distribution network service providers may be required to undertake significant augmentation upstream from the point at which the generator proposes to connect. The proponent generator must pay for the costs of augmenting the shared network, which may be so significant that the generator’s project is no longer viable.\textsuperscript{291}

Timeframes for connecting to the electricity network, whether through the transmission or distribution systems are considerable.\textsuperscript{292} For instance, for connections to the distribution network system, a smooth timeframe would usually involve 12 months or more for the feasibility stage, followed by 3 months to the approvals stage and then another 12 months for construction.\textsuperscript{293}

Recent reviews and developments in energy policy

**Review of energy market frameworks in light of climate change policies**

The Australian Energy Market Commission (AEMC) published its review into the capacity of the energy market framework to accommodate the introduction of the Carbon Pollution Reduction Scheme (CPRS) and expanded Renewable Energy Target in September 2009. The review concluded that:

\textsuperscript{286} CitiPower and Powercor Australia, submission no.20, p.2
\textsuperscript{287} Department of Primary Industries, personal communication, 6 November 2009
\textsuperscript{288} CitiPower and Powercor Australia, submission no.20, p.3
\textsuperscript{289} CitiPower and Powercor Australia, submission no.20, p.3
\textsuperscript{290} CitiPower and Powercor Australia, submission no.20, p.2
\textsuperscript{291} CitiPower and Powercor Australia, submission no.20, p.2
\textsuperscript{292} Department of Primary Industries, personal communication, 6 November 2009
\textsuperscript{293} Mr N Watt, Manager Network Assets, Strategy and Performance, CitiPower and Powercor, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.24
The implementation of the CPRS and the expanded RET are likely to have a significant and ongoing impact on energy markets in Australia. They will result in a structural transformation of many aspects of the market over a period of years, and that transformation will not be without substantial risk and cost for energy markets.294

However, the AEMC also found that the energy market framework was generally capable of accommodating the impacts of climate change policies efficiently and reliably.295 In relation to the connection of renewable energy generation, the AEMC reached the following conclusions:

The expanded RET will drive the establishment of clusters of new generators. Due to the characteristics of the fuel resources for renewable generation, its entry is likely to be clustered in certain remote geographic areas ... Existing frameworks are not well structured to achieve potential efficiency gains from connecting clusters of generators, developed over time, using common connection assets. This is because there is no commercial incentive for network businesses to bear the risk associated with building efficiently sized connection assets. There are potentially significant cost savings if connection works can be coordinated and sized efficiently to allow for future connection activity.296

To address this situation, the AEMC recommends exposing customers to the costs of connection assets if the forecast new generation connections do not subsequently occur. Oversight would be exercised by the Australian Energy Regulator, which would have the capacity to reject investment proposals.297

Review into current electricity distribution network planning

In September 2009, AEMC completed a review into current electricity distribution network planning and expansion arrangement across the NEM to assist in the establishment of a national framework for distribution network planning. The review made a suite of recommendations intended to create ‘a clearly defined and efficient planning process for distribution network investment and support the efficient development of distribution networks’, including a role for AEMO in distributed network planning, which is outside of AEMO’s existing charter.298

Chapter 3: Policy and regulatory framework for renewable energy projects in Victoria

Development of Commonwealth White Paper on Energy

The Department of Resources Energy and Tourism is developing a White Paper to set the long-term energy policy direction of Australia to 2030. The release of a Green Paper was delayed in August 2009 because of uncertainty in relation to the CPRS and expanded RET.


Chapter 4: Other jurisdictions

Introduction

It is considered that despite a strong Government policy commitment to renewable energy, Victoria remains the most difficult state to obtain development approval for wind farms.301

Clean Energy Council

Victoria’s present system for approving renewable energy projects, particularly wind farms, is poorly coordinated, cumbersome and overly-detailed. As a consequence Victoria is the most difficult state in which to get approvals for new renewable power generation. This is reflected in the length of time required to gain a planning permit in Victoria (approximately three years in Victoria compared with around 18 months in South Australia and 12 months in Western Australia). This needs to change if Victoria is to benefit from the investment opportunities.302

Pacific Hydro

Our experience [of the approvals process] in Victoria is that it is worse than our experiences in South Australia and New South Wales; it is subject to appeals, lengthier processes and less final decisions.303

AGL Energy

The second term of reference required the Committee to examine how Victoria compares to other Australian jurisdictions with regard to relevant approvals for renewable energy projects – in particular wind farms as they are the most common form. The Committee investigated two different types of renewable energy project approvals processes – the predominantly council based process in South Australia and the more centralised department of planning approach taken in New South Wales. A hybrid approach is taken in Victoria largely depending on the size of the project. Local councils have primary carriage of projects with a capacity of less than 30 megawatts. Larger projects are managed by state government agencies, as explained in the previous chapter.

South Australia

Background

South Australia has less than 8 per cent of Australia’s population, but around 48 per cent of the nation’s installed wind capacity, 23 per cent of the nation’s installed solar capacity and more than 91 per cent of national geothermal investments.304 According to Ernst & Young, South Australia has:

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301 Clean Energy Council, submission no.22, p.3
302 Pacific Hydro, submission no.29, p.1
303 Mr A Cruikshank, General Manager, Energy Regulation, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.52
304 Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 5; Hon. M Rann MP, SA Premier, South Australia Commits to 33%
... captured the lion’s share of new renewables investment during the past seven years since MRET commenced, moving from near zero renewables in its electricity supply to 17 per cent. In many respects, it serves as the MRET success story and beacon of what’s possible for the rest of Australia. SA has been attractive for investment in the past largely due to a good-quality wind resource and higher underlying electricity prices than the rest of the NEM, plus a reasonably straightforward planning approval environment. Looking forward, it also has a rich geothermal resource.

There has been rapid growth in renewable energy investment in South Australia. It has been estimated that if all the projects currently proposed for South Australia were to proceed, this would enable 60–70 per cent of the state’s total demand to be generated by renewable energy sources.

Wind

Wind is the dominant renewable energy generation technology being pursued in South Australia. It is the state with the highest installed capacity of wind generation in Australia and the highest proportional contribution by wind energy to electricity demand. There are 740 megawatts of wind generation operating in South Australia and a further 278 megawatts of wind generation currently under construction, such that within 18 months there will be in excess of 1,000 megawatts of wind generation in South Australia. The Electricity Supply Industry Council has estimated that there are currently 5,000 megawatts of proposed wind farm developments in South Australia, some of which may rely on additional network development.

- South Australia currently has nine operational wind farms, with two more under construction. Wind generators are predominantly located in the mid north, north of Adelaide and to the south-east of South Australia. Wind farms that are constructed, committed or under construction are shown in table 4.1.
Table 4.1  South Australian wind farms

<table>
<thead>
<tr>
<th>Operating wind farms</th>
<th>Owner/s</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starfish Hill</td>
<td>Transfield Services</td>
<td>34.5</td>
</tr>
<tr>
<td>Canunda</td>
<td>International Power</td>
<td>46</td>
</tr>
<tr>
<td>Lake Bonney Stage 1</td>
<td>Infigen Energy</td>
<td>80.5</td>
</tr>
<tr>
<td>Wattle Point</td>
<td>AGL Hydro</td>
<td>90.75</td>
</tr>
<tr>
<td>Cathedral Rocks</td>
<td>Hydro Tasmania/EHN</td>
<td>66</td>
</tr>
<tr>
<td>Mt Miller</td>
<td>Transfield Services</td>
<td>71</td>
</tr>
<tr>
<td>Brown Hill (Hallett Stage 1)</td>
<td>AGL Energy</td>
<td>94.5</td>
</tr>
<tr>
<td>Lake Bonney Stage 2</td>
<td>Infigen Energy</td>
<td>159.5</td>
</tr>
<tr>
<td>Snowtown</td>
<td>TrustPower Ltd</td>
<td>98</td>
</tr>
</tbody>
</table>

Projects that are committed or under construction are:

<table>
<thead>
<tr>
<th>Operating wind farms</th>
<th>Owner/s</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hallett Hill (Hallett Stage 2)</td>
<td>AGL Energy</td>
<td>71</td>
</tr>
<tr>
<td>Clements Gap</td>
<td>Pacific Hydro</td>
<td>56.7</td>
</tr>
<tr>
<td>Lake Bonney Stage 3</td>
<td>Infigen</td>
<td>39</td>
</tr>
<tr>
<td>Waterloo Stage 1</td>
<td>Roaring 40s</td>
<td>111</td>
</tr>
</tbody>
</table>

Sources: Electricity Supply Industry Planning Council, Annual Planning Report, June 2009, pp.69, 72; SA Department for Transport, Energy and Infrastructure, communication, 18 September 2009

The following figure shows wind generator locations in South Australia.

Figure 4.2  Wind generator locations in South Australia

Source: Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 5
Geothermal

There are now 28 companies exploring for hot rock and hot sedimentary aquifer geothermal resources in 279 licence areas in South Australia. The two most advanced geothermal projects in South Australia are being conducted by Geodynamics and Petratherm. Geodynamics is investigating the utilisation of hot dry rock geothermal power in the far north east of South Australia. The project is structured in two stages:

- **stage 1** involved drilling the first deep well and the development of a subterranean engineered heat exchanger in hot granites with temperatures above 250 degrees Celsius. A production well has also been drilled and testing completed in early 2009. Stage 1 also includes the installation and testing of a small pilot test plant, which would use the two existing wells to generate power of approximately one megawatt. The 1 MW plant will provide free electricity to the small Innamincka township, including Geodynamics’ field operations such as warehouses and workers’ accommodation and the company has stated that it is expected to be commissioned in six to nine months time; and

- **stage 2** involves the development of a commercial-sized demonstration plant (25 – 50 MW).

Petratherm’s Paralana project in the Flinders area will involve the drilling of the second deep geothermal well in Australia. They are currently drilling the first well for their planned demonstration project. Petratherm is proposing to initially construct a 30 megawatt commercial demonstration plant to supply the nearly Beverley Uranium Mine.

Both Geodynamics and Petratherm have received significant grants for these projects, $62 million for Petratherm and $90 million for Geodynamics, under a recent round of renewable funding grants provided by the federal government.

Wave

There are two key wave power developments being progressed in South Australia. The state’s first wave power exploration licence was issued to Carnegie Wind Energy over Port MacDonnell in the

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312 Ms A Long, Project and Research Engineer, South Australian Department of Primary Industries and Resources, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.255
313 Electricity Supply Industry Planning Council, Annual Planning Report, June 2009, p.74
315 Electricity Supply Industry Planning Council, Annual Planning Report, June 2009, p.74
316 Ms A Long, Project and Research Engineer, South Australian Department of Primary Industries and Resources, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.255
317 Electricity Supply Industry Planning Council, Annual Planning Report, June 2009, p.76
318 T Arump, ‘Renewable Energy in Fund Boost’, The Age newspaper, 7 November 2009, p.3
Other jurisdictions

The South Australian Government has also approved a $5 million wave energy pilot plant off the Eyre Peninsula coast, to be constructed by Wave Rider Energy.

Solar

There are plans for a $15 million solar demonstration plant at Whyalla, which will combine solar power with ammonia energy storage technology. The project is being advanced by a consortium of companies comprising Wizard Power, National Power and Sanctuary Energy. In addition, the South Australian and Federal governments are supporting an upgrade of the Umuwa solar power station in the far north-west of South Australia. The Umuwa solar power station is situated on the lands of the Anangu Pitjantjatjara people in northern South Australia and serves a number of nearby Indigenous communities.

Policy settings for renewable energy in South Australia

In June 2009, the South Australian Premier announced a number of new renewable energy policies. Firstly, South Australia’s renewable energy target has been increased to 33 per cent by 2020, compared with the national expanded renewable energy target of 20 per cent renewable energy by 2020. The South Australian Government had previously set targets for 20 per cent of electricity generation and consumption to be derived from renewable sources by 2014.

Secondly, the government has committed $20 million to a Renewable Energy Fund to accelerate investment in the sector. Mr Tim O’Loughlin, Acting Renewable Energy Commissioner for South Australia, described the fund as follows:

The idea of the fund is not just to replicate what the Commonwealth Government is doing. In fact [it is] the opposite; it is to pick on those things where we think there are gaps with things that might be done. In general the fund will be applied to four main areas: generating the sort of information that is relevant for renewable energy investors...; generating advice needed to inform new policies, particularly on international activities; providing direct assistance to key projects in areas such as bid preparations, access to R and D, feasibility studies; and supporting the early development of

324 Solar Systems, Umuwa Case Study.
325 Hon. M Rann MP, SA Premier, South Australia Commits to 33% Renewable Energy Target by 2020, media release, 2 June 2009; Hon. M Rann MP, SA Premier, Ministerial statement on renewable energy, 2 June 2009.
326 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.243
327 Hon. M Rann MP, SA Premier, South Australia Commits to 33% Renewable Energy Target by 2020, media release, 2 June 2009; Hon. M Rann MP, SA Premier, Ministerial statement on renewable energy, 2 June 2009.
Thirdly, the Premier announced the creation of RenewablesSA, which is situated within the Department of the Premier and Cabinet. The RenewablesSA Board is a Sub-Committee of the Economic Development Board. The RenewablesSA Board is supported by a Renewable Energy Commissioner whose role is to advise the Government on policy and planning and ensure that ‘the state’s leadership position in renewable energy translates into benefits for the economy’. The charter of the RenewablesSA Board is to:

- develop and oversee the implementation of a framework for attracting renewable energy investment to South Australia;
- provide strategic advice to the Government on renewable energy policy issues, with a board that is composed of people ‘who are well networked into the industry’;
- develop pathways for investment for the various sectors of the renewable energy industry and for the various stages of the investment process, namely research and development; deployment; downstream manufacturing; services; and related industries such as transmission and distribution; and
- recommend to the Premier disbursements from the Renewable Energy Fund.

Planning processes for renewable energy in South Australia

There is ‘... strong support for renewable energy’ in the South Australian planning system, which is largely regulated by the Development Act 1993 (SA). In South Australia, wind farm developments are assessed through one of three processes:

- the private development process involves applicants lodging proposals with local councils who assess the project against the development plan for that council;
- the crown-public infrastructure development process involves a project receiving the endorsement of a state agency, which lodges the development application with the Development Assessment Commission; and
- the major development process requires wind farm projects to undergo extensive environmental impact assessments and the decision is made by the Minister.

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328 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.244
330 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.245  
332 Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.250  
Geothermal energy developments are regulated by the *Petroleum and Geothermal Act 2000* (SA). Each of these regimes is discussed in more detail below.

Local councils

Almost all wind farms in South Australia, no matter what size, have been progressed through local councils. All councils are required to have regard to the state-level planning strategy, set out in the Development Act, when they are implementing their own planning laws and zoning schemes and when they are assessing project proposals. A category of ‘wind farms’ was created within South Australia’s Development Act in 2003, inserting consistent objectives and principles into local area Development Plans to encourage and guide wind farm developments. The changes:

- provided objectives encouraging the development of renewable energy sources in appropriate locations; and
- inserted detailed principles of development control within local area Development Plans to assist local authorities in the assessment of wind farm applications.

The principles include ensuring that wind farms should be sited, designed and operated in a manner that:

- does not significantly detract from significant visual and landscape character elements of the area;
- utilises elements of the landscape, materials and finishes that minimise visual impact;
- minimises the potential for adverse impacts on areas of native vegetation, conservation, environmental, geological, tourism or heritage significance;
- does not impact on the safety of aircraft and the operation of airfields and designated landing strips; and
- minimises the potential for nuisance or hazard to nearby property owners/occupiers, road users and wildlife.

A guide for wind farm applicants and a planning bulletin were released by the Department of Planning and Local Government in August 2002. Mr Frank Brennan, the Chief Executive Officer of Wattle Range Council, observed that:

> While this is being promoted as a bottom-up process, driven by the local community, in reality the experience has been that it is probably a bit of a bottom-up and top-down process where the resulting changes to development plans can be pervaded by much state government policy, including the

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334 Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.250
Within the South Australian planning regime, wind farms are characterised as category 3 developments, a type of development which gives the public rights of notification and appeal. After a council has notified the public of a development, members of the community have a three-week window to submit their representations on the proposal. The council then sends public submissions to the proponent, who have an opportunity to respond. In addition, councils are required to send applications, meeting preset triggers, to state agencies, such as the Environmental Protection Authority or the Coast Protection Board, with such authorities occasionally having a power to refuse an application. The council then finalises a planning report, which is often outsourced to a planning consultant. The consulting company assesses the proposal against the development plan, addressing all the representations that have been received, referring to the proponent’s response and makes a recommendation.

South Australian development legislation requires each council to have an assessment panel constituted by a majority of independent member experts, appointed by the council, and a minority of elected councillors. The panel is required to make a decision based on the development plan, which includes the aforementioned state-level principles that are supportive of renewable energy. The development assessment panel will hold a public meeting, at which members of the community can make representations to the panel about the development proposal. Usually, the development assessment panel will make a decision in a closed session at the conclusion of the meeting.

Under the Development Act, councils have a three-month statutory time frame for making a determination, unless they request further information, for which there are ‘stop the clock’ provisions. Mr Tim Knill, Manager of Power Development at AGL, advised that it normally takes about five to six months from the time the application is lodged to the decision by the development assessment panel, which in his view, was not an unreasonable timeframe. Mr Jonathon Upson, Project Manager at Infigen Energy, told the Committee that the South Australian shire council process is a much faster process than in Victoria. In Infigen’s last two projects in South Australia ‘...
Chapter 4: Other jurisdictions

the time from the submission of the planning application to the decision by the shire was less than four months in both cases. That is much, much faster than here in Victoria.349

Both applicants and third parties have appeal rights to the Environment, Resources and Development Court, with the test used by the appeal court being the regime as set out in the development plan.350 Mr Tim Knill observed in relation to the appeal process that:

*I think it costs something like $60 to put in an appeal, so if someone is looking at vexatiously appealing or just disrupting and delaying, it is quite a powerful thing. Even if you do not have any representation, do not get expert witnesses and are representing yourself, in effect you have a zero-cost outlay and can quite effectively delay projects for at least six months under that appeal process, even if ultimately your case gets thrown out. We get development approval from councils, and we normally expect to start very quickly, but if we get appeals, the time frames suddenly get blown out very significantly.*351

Evidence was provided to the Committee that wind farm proponents actively choose the council-based process, usually because councils, communities and development plans are supportive of wind farm developments.352 Mr Knill from AGL stated that:

*In South Australia on all the wind farms I have worked on we have certainly done it through local councils and have not gone for any major project status. We certainly prefer to do it that way because we feel that we engage the community better. If we came over the top of the community with a major project status, we feel that it would probably cause a lot of angst in the local community and they would feel that they are not being heard to the degree they would with a local council and community consultation process.*353

He identified the council process as the key strength of the approvals process in South Australia:

*It really means we are not dealing with multiple authorities and so on. We deal in just about everything with two or three senior people at the council. For us it offers a very direct route to get instant feedback and ask them what they are after. It is quite a simple approach, and I think it is quite effective … we have found that the councils are quite meticulous in applying the process to the book, because they do not want to be exposed at all down the track. That is great; it protects us as well as the councils. The process is very well defined, and all we need when we are starting a process like that is some certainty as to how the process is going to be done and what the time frames are going to be. When we are dealing with a council directly we can get some pretty quick feedback on how that process is done and how quick it will be.*354

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349 Mr J Upson, Project Manager, Infigen Energy, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.3

350 Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.251; Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.276

351 Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.276

352 Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, pp.251–252

353 Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.275

354 Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.279
The council process has been used for approximately 20 wind farms in South Australia, with three wind farms using the two other processes outlined below. In addition, an offshore pilot wave power generator has been approved through the council process.\(^{355}\)

Crown-public infrastructure process

The Crown-public infrastructure process was instigated to facilitate the development of state infrastructure in South Australia. However, when development in South Australia was substantially privatised in the 1990s, the Development Act was amended to extend Crown development approvals processes to private sector based public infrastructure. Private sector proponents can use the traditional Crown development approvals process, but their proposal has to be endorsed by a state agency as suitable public infrastructure. Rather than the local council, proposals are assessed by the state Development Assessment Commission, a body appointed by the Governor. There is a right to comment for councils and state agencies, with the decision made by the Minister for Urban Development and Planning. There are no appeals rights in this process, although there is an option of seeking judicial review.\(^{356}\)

The Crown-public infrastructure process has been applied to two wind farms.\(^{357}\) There has been discussion about a large scale solar proponent expressing a preference to use the Crown-public process.\(^{358}\)

Major development process

In South Australia, the Minister can refer a development or project of major environmental, social or economic importance to the Major Developments Panel. The Minister has discretion as to when to use the process.\(^{359}\) The public review period is at least six weeks for an Environmental Impact Statement (EIS). The Minister is not empowered to make any exceptions from this requirement. The EIS is also required to be referred to the Environmental Protection Authority, and to any other prescribed body or authority as the Minister sees fit.\(^{360}\) As in Victoria, South Australia has a bilateral agreement with the Commonwealth so that the EIS process is recognised by the federal Environment Protection and Biodiversity Conservation Act.\(^{361}\) There are no rights of appeal by the applicant or third parties.\(^{362}\)

South Australia’s most controversial wind farm project, TrustPower’s Myponga-Sellicks Hill development, was progressed through the major developments process. However in September

\(^{355}\) Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 22;
\(^{356}\) Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.252
\(^{357}\) Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.252
\(^{358}\) Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.252
\(^{359}\) Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.252
\(^{361}\) Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.252
2009, TrustPower, withdrew from the project after the South Australian Planning Minister refused to accede to requests by the company for further amendments to its proposal.\textsuperscript{363}

Other assessments

Environmental approvals are largely integrated into the South Australian planning process. Wind farm applications are referred to the Environment Protection Authority for comments and assessment. The Environment Protection Authority has released noise guidelines for wind farms.\textsuperscript{364} Mr Tim Knill described native vegetation requirements as follows:

\begin{quote}
The state Native Vegetation Council will hear any application to clear any significant native vegetation and will obviously want to see that you have done everything you can to minimise the disturbance to start with. With native vegetation clearance what is normally done is that if it is impossible to completely avoid native vegetation – and what we are normally talking about here are native grasses – there are two ways to get around that. One is to purchase a set-aside area in which you might conserve the same species. The ratios are normally 3 to 1, or 6 to 1, so you will actually be purchasing and conserving a much larger area of the native grasses than you are clearing. If there is a very minor amount of clearance, you can normally just make a contribution to the Conservation Council of South Australia’s local projects, and pay a penalty that way.\textsuperscript{365}
\end{quote}

There are no separate coastal or state heritage vetos within the South Australian process – rather they are considerations which are built into the approvals process.\textsuperscript{366} Aboriginal heritage is managed as a subsequent approval to the initial planning permission through a process which takes approximately six months, and involves public consultation and surveys.\textsuperscript{367}

Geothermal energy

Geothermal energy is regulated in South Australia under the \textit{Petroleum and Geothermal Energy Act 2000} (SA), which was amended in October 2009. Under the Act, statements of environmental objectives (SEOs) are developed on the basis of an environmental impact report. Activities cannot be carried out unless there is a SEO in place. Standards from other legislative regimes are embedded into the statement of environmental objectives process, resulting in a ‘one-stop-shop’ for geothermal approvals.\textsuperscript{368} Licensees are required to provide public annual reports of the extent to which they have fulfilled their SEO.\textsuperscript{369}

In contrast with the tender processes adopted by most Australian states, South Australia has instituted an over-the-counter system for issuing geothermal licences. Ms Alexandra Long, a Project

\begin{footnotes}
\item[364] Environment Protection Authority, \textit{Wind Farms Environmental Noise Guidelines}, Adelaide, South Australia, July 2009
\item[365] Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.276
\item[366] Mr P Smith, Director of Assessment, South Australian Department of Planning and Local Government, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.253
\item[367] Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.276
\item[368] Ms A Long, Project and Research Engineer, South Australian Department of Primary Industries and Resources, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.255
\item[369] Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 27
\end{footnotes}
and Research Engineer with the Department of Primary Industries and Resources South Australia, described the development of the over-the-counter process as follows:

The state has liaised closely with the geothermal industry ... to understand which initiatives and reforms would most effectively stimulate private enterprise to undertake exploration and pilot projects to commercialise geothermal energy. After the initial acreage release this industry feedback resulted in the state opening up all of the areas for over-the-counter applications for geothermal licences rather than government initiated acreage releases with work program bidding rounds. This effectively opened up the floodgates as industry was free to develop their own play concepts and apply for acreage to explore and evaluate these concepts. SA now has a diversity of geological play types and economic models which provide a strong portfolio of geothermal projects.370

Ms Susan Jeanes, the Chief Executive of the Australian Geothermal Energy Association, advised the Committee that 'South Australia’s over-the-counter applications have been enormously beneficial to the industry and to South Australia'.371 According to Ms Jeanes, South Australia has the best policy and regulatory scheme of all Australian jurisdictions for geothermal energy.372

Transmission system

Historically South Australia has been a net importer of electricity from the eastern states. However, since late 2006 electricity has been exported to Victoria from South Australia.373 The Committee understands that renewable energy is providing much of the additional capacity in the South Australian grid.374 Mr Sean Kelly, Executive Director Energy at the Department for Transport, Energy and Infrastructure, told the Committee that the government has sought to facilitate investment in renewable energy through its energy policy:

There is a lot of interplay in terms of the progress of renewable energy in this state. Part of what has been done in the state, because we have good renewable resources and good market information, is that the regulatory and planning frameworks have really sought to address the ease and facilitation of getting a new plant constructed and also to manage the technical requirements and cost-sharing aspects to ensure that investments come in the right places at the right time.375

However, South Australia’s transmission infrastructure is encountering capacity constraint in some areas, including in some of the best wind regions of the state.376 A number of proposed wind farms on the Eyre Peninsula have been put on hold as the existing system is unable to cope with the

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370 Ms A Long, Project and Research Engineer, South Australian Department of Primary Industries and Resources, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.255
371 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.267
372 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.268
374 SA Department for Transport, Energy and Infrastructure, Energy Division, personal communication, 2 September 2009
375 Mr S Kelly, Executive Director – Energy, SA Department for Transport, Energy and Infrastructure, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.248
376 Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20% Renewable Energy Target, November 2008, p.13
addition capacity. The Electricity Supply Industry Planning Council (ESIPC) of South Australia has observed that:

Further development of wind in South Australia will ... require significant investment in networks that, at times, already struggle to cope with the transfer of high levels of wind energy, particularly in the mid-north and south-east of the state. In order to access high levels of wind across South Australia, consideration will need to be given to expanding South Australia’s ability to export to the wider national market.

In addition to grid infrastructure, the rapid growth of wind generation in South Australia also creates issues in terms of energy security, as Mr Kelly from the Department for Transport, Energy and Infrastructure explained to the Committee:

The more wind generation you have in your network meeting your demand the more that raises an issue in terms of its proportion of that total demand at any particular time ... With increasing levels of wind generation we are in a position that within 18 months the actual amount of wind capacity will exceed our overnight demand on the system. That then raises issues in terms of how the conventional generators operate, because they have minimum operating levels before they have to run down. The concept of semi-scheduled generators and the ability to limit potential dispatch at different times becomes a more critical issue as the level of your renewable generators penetrates a higher proportion of the overall generation.

One way in which South Australia attempts to balance the security of energy supply with high levels of wind generation is by imposing higher technical standards on wind generators than the minimum standards required by the National Electricity Market (NEM).

Electricity transmission and connection to the NEM grid also remains a significant issue for the geothermal energy sector. Ernst & Young report that:

While SA has vast geothermal resources, most of the development is in the remote north-east of the state, around 500 kilometres from major electricity transmission infrastructure. To achieve the hundreds of megawatts planned by geothermal developers, SA will need several million dollars investment in transmission infrastructure.

It seems likely that additional grid infrastructure will also be required to accommodate wave energy as there is a lack of infrastructure in some of the most attractive locations for developing the resource.

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379 Mr S Kelly, Executive Director, Energy, South Australian Department for Transport, Energy and Infrastructure, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence , p.248
380 Mr S Kelly, Executive Director, Energy, South Australian Department for Transport, Energy and Infrastructure, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence , p.247
382 Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20% Renewable Energy Target, November 2008, p.13
A 2009 report prepared by McLennan Magasanik Associates for the South Australian Government reiterates that the potential for renewable energy in the state ‘rests on the further development of the transmission system within South Australia and between South Australia and adjoining states’.

Mr O’Loughlin, the Acting Renewable Energy Commissioner, told the Committee that in reaching the state’s new 33 per cent renewable energy target, the issue of transmission capacity was absolutely central. On 21 August 2009, the South Australian Premier announced a $1 million contribution to a feasibility study to investigate how to increase the state’s electricity transmission capacity. The Premier said that his vision was for South Australia ‘to be a major source of green power for the eastern states’. The government commissioned a consortium led by Macquarie Bank to conduct the study, which will consider the various commercial, physical and regulatory issues associated with unlocking more of the state’s wind potential, in particular wind from the Eyre Peninsula. The Premier noted that increasing the capacity of transmission lines in the Eyre Peninsula area could unlock a potential $6 billion in renewable energy investment that could generate up to 5,000 megawatts of clean energy.

Issues of significance for Victoria

Five factors, combined, have contributed to South Australia’s success in attracting a disproportionate share of Australia’s investment in wind energy. The first is that South Australia has a very good wind resource, in the sense that it has an abundance of wind. Secondly, South Australia has many kilometres of semi-inhabited and uninhabited coastline, making it easier, from a community point of view, to install wind power. According to the Mayor of Wattle Range Council, Mr Mark Braes, whose jurisdiction encompasses two large wind farm developments – Lake Bonney and Canunda – there has been very little community opposition to the developments because the wind farms are not directly adjacent to highly populated areas. Thirdly, the community has been described as having a pro-development mentality. Ernst & Young noted that ‘many high-wind regions of SA are long-term farming communities that look favourably on the idea of exploiting a natural resource, welcoming the jobs and leasehold income flowing from wind farms’. Fourth, South Australia’s

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385 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.244
387 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.244
389 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.242
390 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.242
391 Mr M Braes, Mayor, Wattle Range Council, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.230
392 Mr M Braes, Mayor, Wattle Range Council, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, pp.230, 231
393 Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20% Renewable Energy Target, November 2008, p.13
planning process is ‘welcoming for wind investors’. Finally, the pool price, or the amount of money paid for generating electricity, has historically been higher in South Australia than in other states, largely due to comparatively reduced access to cheap black and brown coal. Similarly, South Australia’s ‘success story’ with geothermal is a consequence of a good resource and a legislative environment that ‘has provided a high degree of certainty and relative ease of access to drilling those resources’.

The Committee has identified a number of aspects of South Australian renewable energy policy and regulation of interest to Victoria. Participants in the inquiry referred to South Australia’s regulatory regime primarily in order to demonstrate the merits of a comparatively simple, efficient and integrated process. For instance, AGL observed that ‘South Australia has a relatively efficient planning and approval regime’. Pacific Hydro noted that the pre-construction requirements for wind farms in South Australia are much less complex and easier to complete than in Victoria. In particular, wind farm proponents used the South Australian system to demonstrate the virtues of a system which does not incorporate a planning panel process. Origin Energy advised that there is less time delay for projects in South Australia, due to the absence of a planning panel process.

Mr Nigel Bean, Head of Generation Development at AGL Energy, compared his company’s experiences in South Australian and Victoria with respect to wind farm development applications as follows:

Two months ago I went through a process for our Hallett 3 wind farm development in South Australia, which is one of four projects we are developing there... We lodged our planning applications, there were submissions by the public, we responded to those submissions, and then there was an afternoon hearing. We had a site visit by the planning panel in the morning and an afternoon hearing, at which members of the public were allowed to make 5-minute submissions, and a decision was made the same day. That is in dramatic contrast to our most recent experience with Oaklands, of having three weeks of submissions, during which we were required to supply expert witnesses to rebut issues which we often believed were vexatious and very general in nature and certainly not specific to a project. That is a marked difference.

While some evidence was provided to the Committee that the council process allowed wind farm proponents to better involve the local community, the Committee formed the impression that the South Australian process was largely preferred by proponents due to its streamlined and efficient nature, rather than because the main decision maker was at the local government, rather than the state government level.

South Australia is aggressive in its formulation and promotion of renewable energy policy. Ms Sarah Jones, the General Manager of Industry Development at the Clean Energy Council, told the Committee that ‘South Australia has a very strong policy position with respect to renewable energy

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394 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.242
395 Mr T Knill, Manager, Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.279
396 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.242
397 Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 24; AGL, submission no.6, p.2
398 AGL, submission no.6, p.2
399 Pacific Hydro, submission no.29, p.5
400 Origin Energy, submission no.10, p.3
401 Mr N Bean, Head of Generation Development, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.53, 54
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

... they have been very up-front in terms of wanting [renewable energy investment]. Mr Teoh, Executive Manager Development at Pacific Hydro commented that in South Australia there is 'a very strong political imperative and policy imperative to deliver on project approval'. Mr Knill from AGL noted that 'the targets that the state government has set for the state, although there are not particular drivers to go with those targets, show that it is very welcoming of wind farm projects'.

In addition to its public commitment to renewable energy in the form of increased targets and additional funding, South Australia is notable for its strategic commitment to renewable energy through the creation of the RenewablesSA Board. RenewablesSA provides a high-level, integrated and holistic approach to renewable energy investment, ranging from the development of policy frameworks, strategic advice, close engagement with industry, identification of investment pathways for research and development through to distribution, and capacity to make funding recommendations to the Premier to assist in realising its initiatives. In Victoria, a recent restructure of responsibilities within the Department of Primary Industries has established the Energy Sector Development Division with 'a key responsibility to facilitate energy investment in Victoria', complementing the activities of other agencies such as the Department of Innovation, Industry and Regional Development and Sustainability Victoria. However, in comparison with RenewablesSA, the Energy Sector Development Division is more limited in terms of its profile, access and mandate.

The South Australian Government has been pro-actively engaging in a strategic planning process with respect to its transmission system in order to facilitate the growth of the renewable energy industry in the Eyre Peninsula. In evidence to the Committee, Mr Teoh referred to the feasibility study, noting that it provided a way forward for addressing infrastructure impediments in which governments would take 'the front-end risk of building the backbone transmission lines ... and then recovering that progressively from the renewable energy companies that connect onto that grid'. The Committee has not been informed of any similar strategic planning by the Victorian Government aimed towards facilitating the development of the renewable energy industry through investment in grid infrastructure.

South Australia’s welcoming stance towards renewable energy extends from its high-level policy into elements of the public service. Representatives from the geothermal industry commented favourably on the ‘can do’ attitude of the Department of Primary Industries and Resources in South Australia (PIRSA) with respect to geothermal energy developments. Ms Jeanes informed the inquiry that ‘a number of my industry colleagues in Victoria have said: ‘We need champions in Victoria driving the process in the same way that we have champions here in South Australia’.

The geothermal energy industry strongly prefers South Australia’s over-the-counter process for exploration licences to the Victorian tender process. The Committee also noted that some of South Australia’s success in attracting geothermal investment can be attributed to the number of relatively modest grants it has made to geothermal companies, including the provision of funds intended to

403 Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16
404 Mr T Knill, Manager Power Development, AGL, South Australia, Environment and Natural Resources Committee public hearing – Adelaide, transcript of evidence, 29 September 2009, p.280
405 Victorian Government, submission no. 21, p.25
406 Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16
foster seismic and drilling exploration under its Plan for Accelerating Exploration (PACE) scheme. The government also funds research to address key challenges faced by the geothermal industry and has recently announced funding for a South Australian Centre for Geothermal Energy Research of $800 000 per annum for two years.408

Grants provided by the South Australian Government to the geothermal industry are shown at table 4.3.

Table 4.3  Geothermal project processes: attracting grants

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Date</th>
<th>Recipient</th>
<th>Project</th>
<th>Amount (A$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$:$</td>
<td>Apr-05</td>
<td>Petratherm Paralana, SA</td>
<td>140,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Apr-05</td>
<td>Scopenergy Limestone Coast, SA</td>
<td>130,000</td>
<td></td>
</tr>
<tr>
<td>100% of cost</td>
<td>Apr-05</td>
<td>Eden Energy Witchellina Project, SA</td>
<td>21,000</td>
<td></td>
</tr>
<tr>
<td>100% of cost</td>
<td>Jun-05</td>
<td>University of Adelaide Induced seismicity, Cooper Basin</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-05</td>
<td>Geodynamics Cost: benefit of EGS to reduce emissions</td>
<td>40,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-05</td>
<td>Geothermal Resources Curnamona Project, SA</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-05</td>
<td>Green Rock Olympic Dam Project, SA</td>
<td>68,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-06</td>
<td>Torrens Energy Heat flow exploration, Adelaide Geosyncline</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-06</td>
<td>Eden Energy Renmark Project, SA</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Dec-06</td>
<td>Geodynamics High Temp. borehole imaging, Cooper Basin</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>May-07</td>
<td>University of Adelaide Induced seismicity protocols – SA</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Jun-07</td>
<td>University of Adelaide Australian Geothermal Energy Group Research</td>
<td>250,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Feb-08</td>
<td>Petratherm Shear wave splitting for Hot Rock exploration</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Feb-08</td>
<td>Torrens Energy 2D seismic, Adelaide Plains</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Jun-08</td>
<td>University of Adelaide Australian Geothermal Energy Group Research</td>
<td>250,000</td>
<td></td>
</tr>
<tr>
<td>100% of cost</td>
<td>2nd quarter - 09</td>
<td>University of Adelaide Remote EGS Use to Produce Syn-fuel &amp; Hydrogen</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>$:$</td>
<td>Apr-09</td>
<td>Geodynamics Transmission from Habanero to Innamincka (SA Regional Dev. Infrastructure Fund)</td>
<td>630,000</td>
<td></td>
</tr>
<tr>
<td>80% of $1m</td>
<td>Jul-09</td>
<td>University of Adelaide SA Geothermal Research Centre</td>
<td>1,800,000</td>
<td></td>
</tr>
</tbody>
</table>

$4,039,000

Source: Government of South Australia, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, presentation slide 33

408 Ms A Long, Project and Research Engineer, South Australian Department of Primary Industries and Resources, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.256
The Committee noted that in 2009, for the first time, the Victorian Government has made grants available to the geothermal industry, along with the mineral exploration sector, as part of its $700,000 *Rediscover Victoria* drilling funding scheme. In comparison, the South Australian Government has been making funding available to the geothermal sector since April 2005, with provision for research and development as well as drilling, and with grants totalling over $4 million to date. Ms Jeanes said that at the state level:

*South Australia’s PACE scheme has been a generator of activity in the industry. It has caused a lot of companies to say: ‘We’ll get some support. Let’s come and have a look here and see whether or not there is a resource that we think is worth exploiting’.*

Finally, at the level of government practice, South Australia has embarked on a program of installing solar panels on prominent public buildings, including the showgrounds, Parliament House and the Adelaide airport. Mr O’Loughlin informed the Committee that the program is ‘about making solar panels an accepted part of the urban landscape’ because ‘we think that the more people see these things, the more they will be encouraged to make their own investments.’

**New South Wales**

**Background**

In NSW the wind energy market is relatively immature compared with that of Victoria. There are four small wind farms in operation plus a single turbine at Newcastle. The Committee was advised that as of 31 August 2009, another 1,681 megawatts of wind power had been approved and an additional 2,191 megawatts was being assessed and expected to be approved by the end of 2009. The Committee was subsequently advised that 2,655 megawatts of wind farms had been approved by the Minister for Planning, by the end of 2009. One of the largest wind farms in the southern hemisphere – 598 wind turbines - is to be constructed at Silverton near Broken Hill. A map illustrating the locations of the wind farms and their status is set out in figure 4.4.

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410 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.267
411 Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.243
413 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
414 New South Wales Department of Planning, personal communication, 22 January 2010
Figure 4.4 Renewable energy precincts in New South Wales

Source: Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, tabled document, 31 August 2009

Ms Yolande Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning advised that:

... We know that they [wind farm proponents] have a lot of sites in New South Wales. They can put up monitoring towers just as exempt developments with no approvals. We know there are a lot of those out there in a whole range of areas. We are hoping to see a lot more. As well as that, we have
got a few of what we call ‘integrated’ projects where they have got some solar and some wind mixed
together.\textsuperscript{415}

With respect to solar energy in NSW, a solar thermal plant is located at the Liddell coal-fired power
station. The proof of concept project demonstrated that steam could be generated at temperatures
necessary for integration with the power station.\textsuperscript{416} The solar plant has subsequently been integrated
with the power station. Both a small scale demonstration trough array and high concentration tower
solar array have also been installed at the National Renewable Energy Centre in Newcastle.\textsuperscript{417} The
Department of Planning is currently ‘… reviewing the rules about what you can do and the level of
approval that you need for some of these things and looking at how much red tape we can take off
without causing any risks, so we are really quite keen to encourage solar’.\textsuperscript{418}

The potential for growth of the renewable energy sector in New South Wales is significant according
to an Ernst and Young report released in November 2008:

\begin{quote}
The relatively unexploited nature of the wind resource in NSW, coupled with its large electricity
market and available transmission capacity, make the state the next frontier for renewable energy
project investment. While NSW lacks the quality of wind resource possessed by some of the southern
states, it is still comparable with many European countries that lead the world with their wind power
capacity. Wind developers have managed to find a range of good quality sites around the Great
Dividing Range. Although only one of these has proceeded to construction to date, it is expected that
many will become commercially attractive under the enlarged MRET regime. In addition, NSW’s large
agricultural and forestry areas provide substantial bioenergy resources that may become
commercially attractive once thermal power plant construction costs subside from current inflated
levels.\textsuperscript{419}
\end{quote}

The NSW Government has identified large potential resources for bioenergy production in NSW -
over 1,500 MW - across agriculture, forestry and wastes.\textsuperscript{420} Two NSW sugar mills have installed
large power generation plants, efficiently converting all of the sugar cane waste and cane trash into
energy.\textsuperscript{421}

\begin{footnotesize}
\textsuperscript{415} Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the
Environment and Natural Resources Committee – Melbourne, 31 August 2009
16 October 2009
16 October 2009
\textsuperscript{418} Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the
Environment and Natural Resources Committee – Melbourne, 31 August 2009
\textsuperscript{419} Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20% Renewable
Energy Target, November 2008, p.11
accessed 16 October 2009
accessed 16 October 2009
\end{footnotesize}
Like Victoria, approvals processes in NSW are mainly handled by the state planning agency. However the planning approvals process in NSW is regarded as less onerous than that of Victoria.\textsuperscript{422} According to Infigen Energy, the time between application lodgement and a decision being made is considerably shorter in NSW.\textsuperscript{423}

### Planning approvals process

A number of reviews have been conducted and reforms introduced over the last ten years in relation to the \textit{Environmental Planning and Assessment Act 1979 (NSW)}. Essentially there are two different processes by which wind farms can now be approved in NSW under the Act:

- part 3A - major project or planning minister’s approval process for any generation projects with a capital investment value of more than $30 million, which is approximately 15 megawatts for wind farms. Under Part 3A renewable energy generation facilities over 30 megawatts may be declared ‘critical infrastructure’ if they are located within identified renewable energy precincts with all appeal rights removed. The precincts are illustrated above in figure 4.4; and

- part 4 – joint regional planning panel process for projects with a capital investment value of more than $5 million. Joint regional planning panels are made up of three representatives of the state and two appointed by the council. Prior to 1 July 2009, councils fulfilled this function.

The Director of Policy, Planning Systems and Reform, NSW Department of Planning outlined the Part 3A process to the Committee and explained that native vegetation, threatened species and Aboriginal heritage issues are integrated into the approval process:

> Previously the Aboriginal heritage approval has been done under the National Parks and Wildlife Act and the native vegetation one has been done under the Native Vegetation Act. But because it is part 3A there is an integrated approval and there is a single approval. The process makes sure that the issues are appropriately considered. The agency responsible for Aboriginal heritage and native vegetation is the one agency, the Department of Environment, Climate Change and Water (DECCW) ... They have quite good assessment guidelines. We now have a register of guidelines for assessment on our web so that everybody knows what guidelines to use. The guidelines provide the framework for assessment.\textsuperscript{424}

The Part 3A process is as follows:

- preliminary assessment – Proponents are asked to conduct a preliminary assessment. A meeting is then held between relevant state government agencies who are asked to identify any requirements that relate to the specific project, that go beyond the standard requirements. The Department of Planning then issues Director-General’s\textsuperscript{425} requirements which set the framework for the assessment of the wind farm;

\textsuperscript{422} Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20% Renewable Energy Target, November 2008, p.11. Although Ernst & Young also note that some NSW projects have encountered difficulties even after ministerial approval has been granted

\textsuperscript{423} Mr J Upson, Project Manager, Infigen Energy, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.5

\textsuperscript{424} Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009

\textsuperscript{425} A NSW Director General is equivalent to the Secretary of a Victorian Government department
• assessment draft otherwise called the environmental assessment – When the proponent returns with the environmental assessment a copy is forwarded to the Department of Environment, Climate Change and Water and a decision is made as to whether the documentation is adequate to go on exhibition or additional information is required;

• public exhibition – a complete assessment must be prepared before it goes on exhibition for at least 30 days. When it is on exhibition, DECCW officers are expected to provide an assessment of vegetation, threatened species or Aboriginal heritage issues;

• proponent’s right of reply – when the project comes off exhibition the submissions are forwarded back to the proponent and the proponent is given the opportunity to change the project in response to issues raised by the DECCW or the community; and

• approval, refusal or conditions issued – the adjusted report than comes back to the Department of Planning and DECCW and approval conditions are prepared (integrating the requirements of other agencies) along with sign-off by the planning minister. Projects may also be declined.

The Council approval (Part 4) process was similar to that outlined above. However, a streamlined part 4 process is being developed with more discipline being placed on government agencies to provide advice in a more timely way. The changes were due to be introduced at the end of 2009. Joint regional planning panels will make determinations on smaller projects that previously would have been decided by councils.

Recent reforms

In February 2009 the then NSW Premier announced a new plan ‘... to make it easier to establish clean, renewable energy projects, in a major step to attract green investment and create green jobs in NSW’. The plan included:

• the creation of new Renewable Energy Precincts for wind energy with development proposals within the precincts subject to streamlined planning approvals processes, including faster approval times. Five areas of NSW were identified as having the greatest potential for generating wind power;

• the threshold for ‘critical infrastructure’ being lowered from 250 megawatts to 30 megawatts for renewable energy generation facilities within identified renewable energy precincts. Such projects would then ‘benefit from the same priority planning consideration as other important infrastructure, vital to the state, such as major road or hospital upgrades’; and

• employing dedicated project managers to work with renewable energy investors from concept stage to commissioning and generation. The project managers are to also ‘co-ordinate agencies to work and consult with local communities to gain support for investments in the development and operation of wind energy projects’.

The Department of Planning has since undertaken a review of approvals processes for renewable energy projects in NSW. The review has culminated in the most recent announcement by the former Premier on 17 August 2009 with:

426 Hon. N Rees MP, NSW Premier, Doing green business in NSW made easier, media release, 27 February 2009
• clean energy projects anywhere in the state qualifying as critical infrastructure having a planning process managed by designated departmental officers within four months;
• critical infrastructure fees to be waived (projects of 30 megawatts or more) from August 2009 to June 2011;
• the establishment of six Renewable Energy Precincts in NSW; and
• the establishment of Precinct Advisory Committees including community members and Local Government representatives, overseen by the Department of Environment and Climate Change.427

Proponents have recommended that the Committee investigate recent developments in NSW that they favourably view including:

• major project facilitation - processing applications more quickly with the allocation of dedicated project managers within the department of planning;428
• performance benchmarks being set for major project approvals;429
• the absence of a planning panel process like that of Victoria;430
• the proposed creation of renewable energy precincts for wind energy within which development proposals will be subject to streamlined planning and approvals processes;431
• the community planning process associated with wind farm precincts;432
• classifying more than 30 megawatts of new generation as critical infrastructure; and 433
• the approach taken to connecting to distribution systems.434

Conversely some proponents have also raised concerns about the precinct approach.435

Issues of significance for Victoria

The design of the NSW approvals process has a number of strengths that are absent or less developed in the Victorian approvals system.

427 Hon. N Rees MP, NSW Premier, NSW prepares for clean energy revolution, media release, 17 August 2009
428 Mr K McAlpine, Government Relations Manager, Vestas, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.6; Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16 and Union Fenosa Wind Australia, submission no.31, p.4
429 Mr J Upson, Project Manager, Infigen Energy, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.7
430 Mr N Bean, Head of Generation Development, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.7
431 Pacific Hydro, submission no.29, p.5
432 Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.4
433 Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.4
434 Acciona Energy, submission no.33, p.7
435 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.36
The NSW approvals process is more integrated than the Victorian one. Proponents are provided with advice early as to what the various state government agencies require for project approval. This is in contrast with the Victorian process where proponents are directed towards the Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria and state government agencies are less collaborative, operate less cohesively and have a more traditional regulatory stance. As Ms Stone stated:

We are looking at having a more collaborative approach in getting approvals through. It is going to take proponents giving us better quality assessments and better projects, the community being willing to be a bit more cooperative and our assessment [people] working weekends … Our application process happens very early … With a major project you [proponents] come in very early and we give you assessment requirements very early. In those assessment requirements we will say, if it is in an area of high landscape value, look at the AusWind guideline and do an assessment taking into consideration the views from … wherever, places that people highly value … Whereas in Victoria they [proponents] do whatever assessment they want to do and then they lodge this – the applicant. They are not being directed. They have general guidelines in their planning policy and in the Victorian guideline … There is a general Victorian guideline which is quite good, but we are trying to personalise it for particular projects in our director-general’s requirements. So we will particularly say, “You need to consult community-wide about the view there, because it is important”.

Designated project managers have also recently been appointed within the NSW Department of Planning to facilitate major projects, including renewable energy projects. There are no such project managers in the Victorian public service. The role of the project managers is to work with renewable energy investors from concept stage to commissioning and generation in NSW. As Ms Stone explained to the Committee:

... we are trying to accelerate the deployment of renewable energy. It is very high on the government's agenda, so we have introduced three things, importantly. One is that we have introduced these go-to project managers who facilitate the approvals process, or the determination process, by ensuring that the process does not get delayed, that the consultation with other agencies is effective and timely, that the consultation with the community is effective and timely as well. These people are more coordination facilitators, but they are proving to be very effective ...

Their role is very much … providing a separation between the guys doing the assessment, which is the tech blokes doing the assessment and making a recommendation on a technical basis to the Minister on whether or not this should be approved and under what conditions, to having independent people go out and sort out with the Roads and Traffic Authority about how quickly they can … get these procedural things done … It is getting somebody to make that happen more quickly so they can come back quickly with the advice. It is the same thing with Department of Environment, Climate Change and Water and some of their coordination of their regional teams, their head office … So it was getting independent officers to be able to go out and sort out with Integral Energy about whether you really need to do that upgrade of that substation now. I think it is more an organisational-type thing, and instead of leaving it sitting in somebody’s in-tray, you get it out of the in-tray and get it solved.

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436 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009

437 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
Also, a commitment has been made to process applications more quickly. The former Premier announced that approvals will be made for ‘critical infrastructure’ within four months between public exhibition and determination. The average time for assessment has been eight to nine months, although Phase I of Silverton wind farm, the largest wind farm in Australia, took seven months. The length of time for renewable energy project planning approvals in Victoria well exceeds four months.

The environmental assessments relating to projects, including renewable energy projects, are also more rigorous in NSW than Victoria, as a result of being integrated into the planning framework. Currently around 180 environmental impact statements (EISs) are conducted in NSW annually, in comparison with Victoria where five to ten EISs are conducted each year. All projects, not only wind farms, with a capital investment value of more than $30 million, which is approximately 15 megawatts for wind farms will require an EIS in NSW. Enhanced environmental commitments through reforms to the Part 3A process have also been achieved. Ms Stone explained that:

One of the interesting things we have done with part 3A is to ask proponents to make a statement of commitments as part of their project. The reason we did this was that you would see statements made in their [proponent’s] environmental assessment and in their project description and you would wonder, ‘Are they actually going to do that? ...’ So we have now said, ‘All right ... you are talking about social corporate responsibility ... We want you to say exactly what you commit to doing with environmental outcomes’.

It has been a very interesting exercise, with some of the companies actually committing well beyond what we could regulate them to do with regard to environmental performance and with regard to offsetting impacts and that sort of thing. It has been a very positive thing.

The Committee was also interested in the establishment of Precinct Advisory Committees which include community members and Local Government representatives that have, in part, been designed to engage the community in NSW on the issue of renewable energy. Ms Stone advised that:

In each of these precincts we are also establishing go-to people, precinct coordinators, who will be encouraging individuals, whether they are industry or householders, to take up solar power, energy efficiency and those sorts of things, so that they feel engaged in renewable energy, not just sitting back being critical of other people ... As well as that, we are putting together an information education program that will be rolled out in each of those precincts with those precinct advisory committees to assist councils and communities to actually understand the importance of integrating solar or a whole range of renewables into their communities, and to see it as a plus, to see it as something they can be proud of instead of just sitting back and being critical.

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438 Mr K McAlpine, Government Relations Manager, Vestas, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.6; Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16 and Union Fenosa Wind Australia, submission no.31, p.4
439 Hon. N Rees MP, NSW Premier, NSW prepares for clean energy revolution, media release, 17 August 2009
440 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
441 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
442 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
443 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
The Department of Environment, Climate Change and Water has the lead role on the committees. The Committee is unaware of an equivalent regional education and community engagement project in Victoria. A report has also been prepared by the Valuer-General in NSW on the impact of wind farms on property values. Ms Stone stated that: ‘We actually have a very factual report that we can go … and tell the community that it is not going to destroy the value of property in that area if we put a wind farm in’. The Committee believes that there would be merit in a similar study being conducted in Victoria.

A group has been formed within the NSW Government and is working with the Commonwealth Government to review the national grid connection rules and determine how connections can be facilitated in the new renewable energy precincts. The Committee was advised that similar strategic planning was not being conducted by Victorian Government departments.

Finally, Acciona Energy advised the Committee that their experience of connecting to the distribution system was considerably better in NSW than Victoria:

> … Country Energy [in NSW] allow (and in fact require) the proponent to undertake the majority of the work as their representative. This allows the proponent to take control of the project and resource it to meet overall timing requirements. It also means that the advantages of being Country Energy’s representative remain; including streamlined environmental approval and an improved position when negotiating easements. The proponent carries out all land acquisition, environmental approval, design and construction activities and gifts the built assets to Country Energy upon completion.

Acciona Energy recommend that streamlined and guaranteed maximum timeframes for distribution system connection should be implemented in Victoria, with the option of the proponent utilising an approach similar to that applied in NSW, if better timeframes can be achieved.

**Other Australian jurisdictions**

A number of wind farm proponents in Victoria highlighted the benefits of the *State Development and Public Works Organisation Act 1971 (QLD)*. The legislation provides for decisions on significant projects with state-coordinated consideration of economic, environmental and social impacts through:

- the establishment of a position of Coordinator-General;
- enabling the declaration of significant projects;
- coordination of agency requirements by the Coordinator-General; and
- provision of a report covering both conditions of development and coordination of infrastructure.

A number of stakeholders, including Origin, the Clean Energy Council and Pacific Hydro recommended that such elements could be incorporated into a Victorian major projects facilitation bill. As Vestas explained:

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444 Ms Y Stone, Director of Policy, Planning Systems and Reform, NSW Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009
445 Department of Primary Industries, personal communication, 6 November 2009
446 Acciona Energy, submission no.33, p.7
447 Acciona Energy, submission no.33, p.7
448 Origin, submission no.10, p.3; Clean Energy Council submission no.22, p.3; Pacific Hydro, submission no.29, p.5
[The Queensland legislation]... has been in place for a number of years now; its origins date back to the 1930s or 1940s. I do not think anyone has ever had much of a problem with slow planning processes in Queensland. The coordinator-general legislation almost acts like a big stick. It is rarely used. There is an Office of the Coordinator-General which has the power essentially to step into the shoes of those making planning decisions in that state. Once again it is a big stick, it is rarely used, but it imposes deadlines on people in decision making roles to make planning decisions faster, and if they do not then the coordinator-general in Queensland can step into the shoes of the decision maker and make that decision a little bit earlier. That reduces costs, enforces disciplines on people in the planning department, and it just gets things done a lot quicker... 449

The Victorian Major Transport Projects Facilitation Bill was assented to on 28 September 2009. It is unclear whether this legislation may be extended to other major project approvals, including renewable energy projects and associated connection infrastructure.

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449  Mr K McAlpine, Government Relations Manager, Vestas, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.6
## Key findings

| 5.1 | Proponents raised concerns about the timeliness of key decisions being made in the wind farm approvals process. It takes between $4\frac{1}{2}$ and 31 months for the Minister for Planning to approve wind farm applications in Victoria. Councils and/or The Victorian Civil and Administrative Tribunal take between $8\frac{1}{2}$ and 51 months. These timeframes do not compare favourably with New South Wales or South Australia. |
| 5.2 | It takes between 2 and $9\frac{1}{2}$ months for Planning Panels to prepare wind farm reports and another 1 to 15 months for the Minister for Planning to make a decision. |
| 5.3 | The timeliness of the Victorian approvals framework for wind farms could be considerably enhanced with the introduction of statutory deadlines, for instance with Planning Panels required to produce reports on renewable energy projects for the Planning Minister within 90 days. The Committee recommends that the Planning Minister should make a decision on wind farm applications within 90 days of receiving a Planning Panel report. |
| 5.4 | The 30 megawatt threshold that demarcates responsibility for wind farm applications between local councils and the Minister for Planning is outdated and increases the complexity of the approvals process. Furthermore local councils expressed concern that they currently do not have the capacity, expertise and resources to act as the responsible authority for wind farm projects. |
| 5.5 | Coordination between agencies and the accountability of state government departments involved in the planning approvals process would be significantly improved with the appointment of a departmental Project Manager for each renewable energy facility application. Technical Reference Groups should also be integrated into the approvals process for renewable energy facilities. |
| 5.6 | Local councils have an integral role in the approvals process for wind farms, whether they constitute the responsible authority for the project or not. The important role of local councils, as a key stakeholder in the approvals process, should be recognised and strengthened with the appointment of council representatives on renewable energy facility Technical Reference Groups. |
| 5.7 | The publication of a set of standard development approval conditions for wind farm projects would provide greater clarity for proponents. The approval conditions could address issues such as site refurbishment, tip height limits and flora and fauna management and reporting. The conditions would not preclude the application of additional policies developed by local government on renewable energy facilities. |
Introduction

This chapter discusses some of the main issues raised by wind farm proponents and local councils in relation to the approval of wind farm applications in Victoria. The Committee believes that many of the current shortcomings could be readily addressed, resulting in significant improvements to the timeliness, transparency, coordination and outcomes of the approvals process.

There are four main stages to the approvals process for renewable energy projects in Victoria, as discussed in chapter three:

- first stage: pre-application consultation;
- second stage: primary consent phase;
- third stage: secondary consent phase; and
- fourth stage: monitoring, enforcement and decommissioning.

The Department of Planning and Community Development (DPCD) administratively coordinates all of the approvals assessments ‘where they apply and it is practical to do so’. Mr Jeffrey Gilmore, Executive Director of Planning Policy and Reform, DPCD advised the Committee at a briefing that: ‘This enables efficiency for both proponents and decision makers’. Furthermore: ‘Victoria has a comprehensive, consultative and transparent decision making framework for wind energy facilities for the industry and public …’. Mr Gilmore also advised the Committee that:

*I think there are always ways we can make our processes better. I was at an industry conference in Adelaide … It was clear that people who are working in the Victorian system believe it is working for them. Those who view it from a long way away – and we have had some of these issues raised with us directly – do not see it that way. The fact is that Victoria’s approval processes are as quick, if not quicker, than those in South Australia. The regulatory approvals and requirements on the proponents*
are equal to or better than in South Australia. So it is sort of an industry perception problem rather
than a reality problem… 453

The Regional Director of the Grampians and Barwon South West region of DPCD advised the
Committee that:

One of the things I noted in reading some of the [inquiry] transcripts is there has been quite a bit of
criticism of the length of time it takes to get an approval. One thing I would note is that I think it was
reportedly said that that is some other states it only takes two months. Whether that is correct or not,
we are talking about major projects and multimillion dollars in a state which is the most populated in
Australia, where there are lots of people and other things that may well be impacted. I would just like
that to be noted in terms of how you manage a process – whether it is really short or long, most major
projects – multimillion dollars – often can take 12 months or two years. 454

Nevertheless, evidence received by the Committee indicates that there are shortcomings with the
current approvals process. These issues are discussed in detail below. The Committee believes that
there are a number of opportunities to improve the process – not only for proponents, but also the
Victorian community, local government and state government departments and agencies.

**Timeliness of decision making**

One of the key differences between a council and the Minister for Planning being the Responsible
Authority for an application is that time limits apply to the council decision making process. As
explained in chapter 3, if a council does not make a decision on an application within 60 days, the
matter can be taken to the Victorian Civil and Administrative Tribunal (VCAT). Councils in south west
Victoria explained how this can influence the decisions made by wind farm proponents:

Some proponents are submitting applications at 29.9 MW to avoid a panel and direct state
Departmental involvement, and then go straight to VCAT. If a Council is the Responsible Authority,
the State Government Department is seen to have less influence. This has been seen to be an
advantage by proponents in avoiding being requested to undertake comprehensive studies. The 60
day limit for permits subject to appeal to VCAT is also seen by proponents to shorten the approval
timeframes. Other proponents take the opposite view, as they believe the Minister is unlikely to refuse
a wind energy facility outright, as this has only happened once in Victoria to date. 455

Although Union Fenosa advised that this option is less attractive than it used to be, because of the
time it now takes to get a hearing date at VCAT, 456

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453 Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community
Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
454 Mr K Jackson, Regional Director of the Grampians and Barwon South West Region, Department of Planning and
Community Development, Environment and Natural Resources public hearing – Port Fairy, 8 September 2009,
transcript of evidence, p.210
455 Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24,
pp.6–7
456 Mr A Terrill, Associate, Tract Consultants, on behalf of Union Fenosa Wind Australia, Environment and Natural
Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.28
Several proponents raised concerns about the timeliness of key decisions being made in the approvals process. Delays in the approvals process have an impact on investment decisions. As Marianne Lourey, Executive Director, Energy Sector Development, Department of Primary Industry explained ‘Whenever there is a lack of coordination or long time frames involved, they all do add to the cost of the project. One of their [proponents’] key concerns around the timing and the coordination is that the duration of the approvals process is uncertain so they could easily be extended through changes to information requirements over time’. Local government also outlined the disadvantages associated with extended decision making processes that also lack transparency. Mr Mark Hogan, General Manager, Development Services Ararat Rural City Council explained in August 2009 that:

*If the current system of approvals is to remain in place, it is critical ... that staff in the minister’s office understand the impact of their approvals process, specifically the time it takes once it [the application] lands on the minister’s desk, at their discretion. Once an application reaches the desk – Crowlands [wind farm proposal] is probably a classic example of this – there is no clear or accountable time frame that we are aware of when that project is dealt with. To put that into perspective for us, Crowlands went to a planning panel more than 18 months ago. We are no closer to having any clear understanding of where that process is at, nor are any of our businesses or the people we have worked with to try and gear up for the project. There is certainly no process of communication between the minister’s office and any of the other stakeholders that we are aware of. It affects our credibility and the developer’s credibility with our local business community. We sit down and brief our contractors and businesses to be geared up to be ready for these projects ... $150 million of local content coming into a region from one project alone, Crowlands – and then the mystery of the minister’s desk results in projects like Crowlands being idle for 18 months. It makes us look quite foolish in front of our businesses and others who either have other projects on the go or are trying to keep their business afloat while waiting for something like this to happen.*

At the time of writing, a decision on the Crowlands wind farm had not been made by the Minister for Planning. The Committee calculated that it has taken between 2 and 9½ months for planning panels to prepare reports and 1 to 15 months for the Minister to then make a decision (figure 5.1).

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457 For example Vestas stated that ‘a lack of clear timeframes for decision making increases uncertainty for project developers’. Vestas, submission no.7, p.3. Mr A Terrill, Associate, Tract Consultants, on behalf of Union Fenosa Wind Australia, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.28

458 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee, 22 June 2009

459 Mr M Hogan, General Manager, Development Services, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.116
### Approved wind farms with the Minister for Planning as the Responsible Authority

<table>
<thead>
<tr>
<th>Name of wind farm</th>
<th>Time between first panel hearing and report submitted</th>
<th>Time between panel report submitted and approval or permit issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland – Cape Bridgewater *</td>
<td>4 months</td>
<td>15 months</td>
</tr>
<tr>
<td>Portland – Yambuk *</td>
<td>4 months</td>
<td>15 months</td>
</tr>
<tr>
<td>Portland – Cape Nelson *</td>
<td>4 months</td>
<td>15 months</td>
</tr>
<tr>
<td>Portland – Nelson/William Grant *</td>
<td>4 months</td>
<td>15 months</td>
</tr>
<tr>
<td>Wonthaggi</td>
<td>2 months</td>
<td>1 month</td>
</tr>
<tr>
<td>Bald Hills</td>
<td>9 ½ months</td>
<td>2 ½ months</td>
</tr>
<tr>
<td>Waubra</td>
<td>2 ½ months</td>
<td>2½ months</td>
</tr>
<tr>
<td>Naroghid</td>
<td>2 months</td>
<td>13 months</td>
</tr>
<tr>
<td>Mount Gellibrand</td>
<td>2 months</td>
<td>8 months</td>
</tr>
<tr>
<td>Macarthur</td>
<td>3½ months</td>
<td>5 months</td>
</tr>
<tr>
<td>Mt Mercer</td>
<td>4 months</td>
<td>4 months</td>
</tr>
<tr>
<td>Hawkesdale</td>
<td>3 months</td>
<td>13 months</td>
</tr>
<tr>
<td>Woolsthorpe</td>
<td>7 months</td>
<td>2 months</td>
</tr>
<tr>
<td>Ryan Corner</td>
<td>7½ months</td>
<td>5 months</td>
</tr>
<tr>
<td>Glenthompson</td>
<td>4 months</td>
<td>6½ months</td>
</tr>
<tr>
<td>Lal Lal</td>
<td>3 months</td>
<td>3 months</td>
</tr>
</tbody>
</table>

**Note:** *Environment Effects Statement required in conjunction with amendments to Glenelg Planning Scheme and Moyne Planning Scheme*

With regards to the Lexton wind farm, the council originally granted a permit with a capacity of 28.5 megawatts. The permit was issued on 15 February 2007. The proponents then changed the turbine specification which increased the capacity to approximately 40 megawatts, necessitating the Minister to become the responsible authority for deciding whether to amend the permit or not. The revised permit application was not considered by a planning panel. The Minister agreed to amend the permit and issued it on 12 March 2008. Source: Department of Primary Industries, email, received 30 November 2009
Figure 5.1 (b)  Time between first panel hearing and report submitted

Figure 5.1 (c)  Time between panel report submitted and approval or permit issued

Sources:  Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, tabled documents, 8 September 2009; Pacific Hydro, supplementary submission to Victorian Competition and Efficiency Commission, 20 February 2009, p.3; Planning Panel, 9 September 2003, Wonthaggi Wind Farm Environmental Effects Statement and Permit Application 0266, p.1; Department of Sustainability and Environment, <http://www.dse.vic.gov.au/DSE/nrepl.nsf/LinkView8B01277C6E884F28CA256D490003CEDCEF22C5859E37D0FCCA257300082FDFF>, Department of Primary Industries, email, received 30 November 2009
The following figures (5.2 and 5.3) set out the time taken from the lodgement of the permit application to the date of approval or permit issued. For projects approved by the Minister for Planning the time taken ranges between 4½ and 31 months. The time taken for projects approved by local Councils and/or VCAT ranges between 8½ and 51 months. This compares unfavourably with NSW where the average time taken for approvals is 7 months and South Australia where the average is 5-6 months. However it is important to note that the NSW estimate includes the period between public exhibition and a decision being made. Planning applications are sometimes advertised several months before a panel or VCAT hearing is held in Victoria. It is interesting to note that over time, the average primary approvals process has not become shorter in Victoria.

**Figure 5.2 (a)**  
**Approved wind farms with the Minister for Planning as the Responsible Authority**

<table>
<thead>
<tr>
<th>Name of wind farm</th>
<th>Date application received</th>
<th>Date of approval or permit issued</th>
<th>Time elapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland – Cape Bridgewater *^</td>
<td>3 October 2000</td>
<td>1 May 2003</td>
<td>31 months</td>
</tr>
<tr>
<td>Portland – Yambuk *^</td>
<td>3 October 2000</td>
<td>1 May 2003</td>
<td>31 months</td>
</tr>
<tr>
<td>Portland – Cape Nelson *^</td>
<td>3 October 2000</td>
<td>1 May 2003</td>
<td>31 months</td>
</tr>
<tr>
<td>Portland – Nelson/William Grant *^</td>
<td>3 October 2000</td>
<td>1 May 2003</td>
<td>31 months</td>
</tr>
<tr>
<td>Wonthaggi</td>
<td>18 January 2002</td>
<td>2 October 2003</td>
<td>20½ months</td>
</tr>
<tr>
<td>Bald Hills*^#</td>
<td>27 May 2003</td>
<td>19 August 2004</td>
<td>15 months#</td>
</tr>
<tr>
<td>Waubra</td>
<td>12 August 2004</td>
<td>15 June 2005</td>
<td>10 months</td>
</tr>
<tr>
<td>Naroghid</td>
<td>December 2004 (Further info received 31 May 2005)</td>
<td>11 August 2006</td>
<td>20 months</td>
</tr>
<tr>
<td>Mount Gellibrand</td>
<td>24 April 2005</td>
<td>20 August 2006</td>
<td>16 months</td>
</tr>
<tr>
<td>Macarthur</td>
<td>14 July 2005</td>
<td>26 October 2006</td>
<td>15½ months</td>
</tr>
<tr>
<td>Mt Mercer</td>
<td>28 October 2005</td>
<td>April 2007</td>
<td>18 months</td>
</tr>
<tr>
<td>Hawkesdale</td>
<td>21 June 2006</td>
<td>12 August 2008</td>
<td>26 months</td>
</tr>
<tr>
<td>Woolsthorpe</td>
<td>24 October 2006</td>
<td>16 April 2008</td>
<td>18 months</td>
</tr>
<tr>
<td>Ryan Corner</td>
<td>31 October 2006</td>
<td>21 August 2008</td>
<td>22 months</td>
</tr>
<tr>
<td>Glenthampton</td>
<td>4 June 2007</td>
<td>30 October 2008</td>
<td>17 months</td>
</tr>
<tr>
<td>Lexton</td>
<td>1 November 2007 (amended)</td>
<td>12 March 2009</td>
<td>4½ months</td>
</tr>
<tr>
<td>Lal Lal</td>
<td>7 March 2008</td>
<td>30 April 2009</td>
<td>14 months</td>
</tr>
</tbody>
</table>

Note:  
*Environment Effects Statement required in conjunction with amendments to Glenelg Planning Scheme and Moyne Planning Scheme.  
#The Minister’s decision to approve the Bald Hills wind farm was subsequently overruled by the Federal Environment Minister under the EPBC Act. The Federal Minister finally approved the wind farm on December 2006, 43 months after the original application.  
^Wind farms subject to the EPBC Act
Figure 5.2 (b) Period of time elapsed between date application received and date of approval or permit issued with the Minister for Planning as the responsible authority

Sources: Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, tabled documents, 8 September 2009; Pacific Hydro, supplementary submission to Victorian Competition and Efficiency Commission, 20 February 2009, p.3; Planning Panel, 9 September 2003, Wonthaggi Wind Farm Environment Effects Statement and Permit Application 0266, p.1; Department of Sustainability and Environment, <http://www.dse.vic.gov.au/DSE/nrenpl.nsf/linkView/8B01277C5EBB4F28CA256D480003CEDCEF22C5B9E37D0FC CA25790702FDFF>; Department of Primary Industries, email, received 30 November 2009
### Figure 5.3 (a) Approved wind farms with the Council as the Responsible Authority

<table>
<thead>
<tr>
<th>Name of wind farm</th>
<th>Council</th>
<th>Date application received</th>
<th>Date of approval or permit issued</th>
<th>Time elapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challicum Hills</td>
<td>Ararat</td>
<td>12 July 2001</td>
<td>8 October 2001</td>
<td>88 days</td>
</tr>
<tr>
<td>Toora</td>
<td>South Gippsland</td>
<td>5 April 2000</td>
<td>10 June 2004 (VCAT)</td>
<td>51 months</td>
</tr>
<tr>
<td>Yarram</td>
<td>Wellington</td>
<td>3 March 2006</td>
<td>21 December 2007 (VCAT)</td>
<td>21½ months</td>
</tr>
<tr>
<td>Berrimal</td>
<td>Buloke</td>
<td>18 September 2006</td>
<td>13 June 2007</td>
<td>9 months</td>
</tr>
<tr>
<td>Salt Creek</td>
<td>Moyne</td>
<td>25 September 2006</td>
<td>8 June 2007</td>
<td>8½ months</td>
</tr>
<tr>
<td>Morton's Lane</td>
<td>Moyne</td>
<td>25 September 2006</td>
<td>8 June 2007</td>
<td>8½ months</td>
</tr>
<tr>
<td>Leonard's Hill (Daylesford)</td>
<td>Hepburn</td>
<td>2 November 2006</td>
<td>31 July 2007 (VCAT)</td>
<td>9 months</td>
</tr>
<tr>
<td>Drysdale</td>
<td>Moyne</td>
<td>1 May 2007</td>
<td>7 March 2008</td>
<td>10 months</td>
</tr>
<tr>
<td>Winchelsea</td>
<td>Surf Coast</td>
<td>18 January 2008</td>
<td>3 August 2009 (VCAT)</td>
<td>18½ months</td>
</tr>
<tr>
<td>Newfield</td>
<td>Corangamite</td>
<td>27 April 2007</td>
<td>11 August 2008</td>
<td>15½ months</td>
</tr>
</tbody>
</table>
Figure 5.3 (b) Period of time elapsed between date application received and the date of approval or permit issued with a Council as the Responsible Authority

![Bar chart showing the period of time elapsed between the date of application received and the date of approval or permit issued for various wind farms in Victoria.](chart.png)

Sources: Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, tabled documents, 7 September 2009; Wellington Shire Council, email, received 19 November 2009; Buloke Shire Council, email, received 24 November 2009; Hepburn Shire Council, email, received 19 November 2009; Surf Coast Shire Council, email, received 23 November 2009, Ararat Rural City Council, email, received 4 December 2009

Several proponents emphasised the benefits of setting timeframes for the decision making process. Origin Energy and the Clean Energy Council recommended that a prescribed maximum time frame for a decision from the Minister - 90 days from the lodgement of a planning hearing/panel report - be introduced.460 Renewable Energy Systems Australia advised the Committee that:

> … you will no doubt be aware of the recent announcement in New South Wales about the four-month time limit that they are seeking to apply to how long they take in turning around a development consent application. That would be a wonderful thing to see occurring in Victoria. I think it really helps maintain momentum both from the side of the proponent and also for those assessing applications, so it would also aid efficiency." 461

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460 Origin Energy, submission no.10, p.4; Clean Energy Council, submission no.22, p.4
461 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.146
Pacific Hydro agreed that there is merit in setting statutory time limits for the Minister to grant a decision once a planning application has been received. This would be similar in approach to the Federal EPBC Act or the Victorian Aboriginal Heritage Act 2006, both of which operate ‘clocks’ on key decision milestones. Pacific Hydro proposed that approvals processes for wind farms in Victoria would benefit from time limits on decisions for the following milestones:

- panel submitting its report to the Minister for Planning;
- Minister determining a planning application (i.e. from receipt of the Panel’s report);
- referral authorities making a decision on secondary consents. For example, for the Department of Sustainability and Environment to approve a Native Vegetation Management Plan and a Vegetation Offset Management Plan; and
- Minister determining requests for secondary consent (i.e. approve final plans, assess condition compliance etc.).

Pacific Hydro noted that while the Planning and Environment Act 1987 already contains a number of statutory clocks, these do not apply to Panels or the Minister. Furthermore, where they do apply to a responsible authority they are routinely and significantly exceeded. WestWind Energy stated in its written submission that there could be significant time savings by applying clear timeframes where the Minister calls in an application for a wind farm, as is the case with the EES process; and with regards to appointing an independent panel and date for hearing.

The Victorian Competition and Efficiency Commission in its draft report on environmental regulation recommended that the Victorian Government:

- apply time limits to each stage of the environmental assessment and planning permit processes for wind farm projects, some of which would be statutory and others negotiated at the start of the process. There could be protocols for giving advance notice of delays and revisions to the agreed schedule;
- report publicly the time taken for each stage of the process and reasons for any delays; and
- ensure that performance against these timelines is assessed regularly by an independent agency, such as the Victorian Auditor-General.

The Committee understands that the exposure draft of the Planning and Environment Amendment (General) Bill 2009, a timetable for project assessment is to be specified by the Secretary of DPCD as part of the scoping of a proposal. The proposed process under the exposure draft of the Planning and Environment Amendment (General) Bill 2009 applies to the use and development of land for the purpose of a wind energy, solar power or other renewable energy facility with a capacity of 30 megawatts or more, as set out in figure 5.4. However the Committee are the timeframes for the proposal scoping phase by the Secretary; for the appointment of the panel and hearing date, for the time taken by the expert panel to report to the Minister; and for the Minister to make a final decision once the panel has submitted its report or the secondary consent phase, are unclear to the Committee. It is also unclear whether the relevant department’s performance in meeting the

462 Pacific Hydro, submission no.29, pp.5–6
463 WestWind Energy, submission no.30, p.4
timetable will be publicly reported, to allow the wider community to remain informed of the progress being made.

**Figure 5.4** Proposed assessment process for state significant development

The VCEC recommends that protocols should be developed in relation to giving advance notice on delays. The Committee does not believe that the proposed changes set out in the exposure draft of the bill or the VCEC report will resolve the problems outlined during the course of inquiry regarding the timeliness of decision making. The new process may marginally impact on the project certainty, however every wind farm project is unique. It is also unclear who will be consulted in the process of setting the timetable and the timetable will not be binding on the various parties involved. The bill has been drafted in the context of Victoria competing with other interstate and overseas jurisdictions for renewable energy infrastructure investment and the recently established four month approval process announced by the Premier in New South Wales. As the Acting Renewable Energy Commissioner for RenewablesSA explained to the Committee:

... I have had a number of wind farm proponents comment to me favourably about our planning system. Some people say to you they have got lots of wind, they have got good sites and they have got high power prices. The first two of those things is something nature conferred upon them. But I can assure you from the dialogue I have had with wind investor proponents that the planning system we have here [in South Australia] is a material factor in their considerations.465

The timeliness of the Victorian framework could be considerably enhanced with a requirement for key decision makers to meet statutory deadlines. The Committee believes that DPCD should be setting more ambitious standards rather than making minor adjustments to the renewable energy approvals process.

Accordingly, the Committee recommends that:

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<tr>
<th>RECOMMENDATION 5.1</th>
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<td>Planning Panels be required to produce reports on renewable energy projects for the Planning Minister within 90 days of the first panel hearing.</td>
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<th>RECOMMENDATION 5.2</th>
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<tr>
<td>The Planning Minister make a decision on the planning application for a renewable energy project within 90 days of receiving a Planning Panel report.</td>
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465 Mr T O'Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources hearing – Adelaide, 28 September 2009, transcript of evidence, p.242
RECOMMENDATION 5.3

The Department of Primary Industries in consultation with industry and other relevant agencies, formulate timeframes for key decisions in relation to renewable energy project applications including:

(a) the appointment of a panel and hearing dates;
(b) Referral Authorities making a decision on secondary consents. For example, for the Department of Sustainability and Environment to approve a Native Vegetation Management Plan and a Vegetation Offset Management Plan; and
(c) the Minister determining requests for secondary consent.

RECOMMENDATION 5.4

The Department of Primary Industries provide information on its wind farm website to enable proponents, the community, local government, government departments and local businesses to track the status of an application. Individual renewable energy project applications should be allocated a departmental Project Manager and their contact details should also be available on the website.

Demarcation of projects – 30 megawatts

A number of reasons have been provided to explain why the 30 megawatt limit was set to demarcate responsibility for wind farms between councils and the Minister for Planning. According to the Victorian Government submission, the 30 megawatt threshold aligns with other relevant regulatory thresholds for example:

- a 30 megawatt wind energy facility must be registered under the national electricity rules governed by the former National Electricity Market Management Company;
- an Essential Services Commission licence must be issued for installation of a wind energy facility of 30 megawatts or more; and
- the Electricity Industry Act 2000 uses 30 megawatts as the defining threshold between a ‘small’ and ‘large’ generation asset.466

466 Victorian Government, submission no.21, p.13
The 30 megawatt threshold is to be retained according to the proposed changes to the Planning and Environment Act 1987. Projects considered to be ‘state significant major developments’ will include the use and development of land for the purpose of a wind energy, solar power or other renewable energy facility with a capacity of 30 megawatts or more.467

However when the wind farm policy and guidelines were originally released in 2002, 30 megawatts was considered a large project. This is no longer the case. Union Fenosa explained that:

*I would have thought that it [30 megawatts] was on the lower end. In 2002 when it was introduced it was a larger project that was over 30 megawatts. Now the majority of the projects would be over 30 megawatts. The simple fact is that the projects are larger and the turbines themselves are generating more power because they are higher and more efficient.*468

Union Fenosa did not believe that a change was needed to the 30 megawatt threshold. AGL Energy advised that the development effort that goes into a 20-turbine project as compared to a 200-turbine project is pretty similar, ‘so there is definitely a driver towards larger wind farms for several reasons’.469

Other proponents argued that despite whether the responsible authority is a council or the Minister for Planning, proponents and the community are looking for certainty and guidance in the approvals process.470

Priority development panels were proposed by some proponents to fast track 30-100 megawatt projects.471 Priority Development Panels have been used in Victoria to consider projects such as the former Laverton Air Base and the Frankston Marina. However, the Committee believes that there is a need to balance the efficiency of the approvals process with the need to directly include the community in consultations. The Committee concluded that if there is to be a greater role for wind farms in generating renewable energy in Victoria, ongoing community acceptance of wind farms is critical given the nature of such developments across, at times, large sections of the landscape. Priority Development Panels do not necessarily offer, as planning panels currently do, the community the opportunities to be consulted.

Local Councils have an integral role in the approvals process for wind farms, whether they constitute the responsible authority for the project or not.472 Councils are approached by proponents when conducting initial consultations with the community. Projects for which the Minister is the responsible authority are still referred to Council for comment and Councils are requested to appear before Planning Panels. Moyne Shire explained that on receipt of a notice from the DPCD of a ‘major’ application, the shire institutes its own consultation process so as to be in a position to fully and

467 Department of Planning and Community Development, August 2009, Modernising Victoria’s Planning Act, Response paper no. 4: state significant major development, p.6
468 Mr A Terrill, Associate, Tract Consultants on behalf of Union Fenosa Wind Australia, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.28
469 Mr A Cruikshank, General Manager, Energy Regulation, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.57
470 Ms S Jones, General Manager, Industry Development, Clean Energy Council, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.3
471 Refer to Clean Energy Council, submission no.22, p.4 and Acciona, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.107 for example
472 The paragraph draws on evidence from Mr B Stonestreet, Chief Executive Officer, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, pp.152–153 and Submission from the Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24, p.3
properly inform itself of, and reflect, the views of its community. Councils are also involved in the secondary consent phase. Several of the conditions of consent involve various documents that have to be prepared by the proponent to the satisfaction of either the local planning authority or the minister. As noted in chapter 3, local councils are responsible for the enforcement of all wind farm planning permits.

Local Councils expressed three main concerns about the current approvals process. Firstly, Councils advised the Committee that they lacked the capacity - both the expertise and the resources - to process and facilitate project applications and development. The submission from a group of Councils in south west Victoria stated that: ‘Council’s role in assessing expert evidence in major projects is somewhat unclear ... as the volume and technical nature of material provided often poses some difficulties for Councils. Small regional councils are put in a position of ... accepting the proponent's expert submission as is or employing an expert of their own to provide independent advice...’ Mr Russell Guest, Manager of Strategic Planning at Moyne Shire Council expanded on this issue at the hearing in Port Fairy:

As far as the extensive interactions for a project, some of these are outside the expertise of any council. We have got some expertise in the planning end of it, because we happen to do more of it than anyone else. I have been contacted by a shire not that far from here to the north that has got a lone planner who has been in the job for two years. He has got two state-level wind farms that might get built. He has never seen them, he has never done them [been involved in the application process], he did not know what to do, he did not know who was pulling whose chain about what happened. It is a level of expertise that is daunting for something that size if you have never seen one ...

Secondly, Councils were concerned about the timing of the release of information about a wind farm project. As Ms Sophie Segafredo, Manager of Strategic Planning and Environment at the Shire of Corangamite stated:

... So we start off with a proposal, whether it is via an EES of a planning permit application, for which a certain level of information is provided and people are expected to make a judgement on that. Over time, more and more information comes out as you get down to a higher level of detail with the proposal, for example, exactly which quarries are going to be used and therefore what is going to be the impact on residents in those areas, which route is going to be taken for transporting the main piece of infrastructure and therefore, perhaps, other vegetation removal that might be required. So you go through this iterative process you are not necessarily ending up with the implications that you thought you were going to end up with when the initial decision was made that the project should be approved.

Thirdly, the Shire of Corangamite was also concerned that the council had a 'very limited' ability to influence the outcome of parts or the whole of projects such as wind farms. The Manager of Strategic Planning and Environment at the Shire advised that:

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473 For example refer to City of Greater Bendigo, submission no.3, pp.2, 4; City of Ballarat, submission no.13, p.1
474 The Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24 p.3
475 Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.154
476 Ms S Segafredo, Manager, Strategic Planning and Environment, Shire of Corangamite, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.154. Also refer to Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.155
Moyne Shire is an authority on the process given that 40 to 45 per cent of approved wind farms in Victoria are located in the shire and around 35 per cent of applications that are currently being considered by the state emanate from this shire.478 Moyne Shire concluded that the approvals process would be easier, simpler and more efficient if there was a single process rather than the two current processes depending on the size of the renewable energy project. The Committee agrees with this conclusion. The Committee believes that the current process is unnecessarily complex and is concerned that Council’s do not necessarily have the capacity, expertise and resources to act as the responsible authority for wind farm projects. The Committee also believes that the important role of Local councils, as a key stakeholder in the approvals process, should be recognised and strengthened with the appointment of council representatives on renewable energy facility Technical Reference Groups. This issue is discussed in the next section on coordination between decision making authorities.

According to the Policy and Planning guidelines for development of wind energy facilities in Victoria, the definition of a wind energy facility does not include turbines principally used to supply electricity for domestic or rural use of the land.479 The Committee believes that councils should retain responsibility for turbines principally used to supply electricity for domestic or rural use of the land. The Committee recommends that:

**RECOMMENDATION 5.5**

The Minister for Planning be the Responsible Authority for all commercial wind energy facilities.

### Coordination between decision making authorities

The Committee believes that coordination between agencies and the accountability of state government departments involved in the planning approvals process would be significantly improved with the appointment of both departmental Project Managers and Technical Reference Groups for all renewable energy projects.

In New South Wales, Project Delivery Managers have been employed by the Department of Planning to facilitate major projects, including renewable energy projects, as discussed in chapter 4. The project managers will ensure the process does not get delayed and that consultation with other agencies and the community is effective and timely.

477 Ms S Segafredo, Manager, Strategic Planning and Environment, Shire of Corangamite, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.165
478 Mr B Stonestreet, Chief Executive Officer, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.152
479 Department of Planning and Community Development, September 2009, Policy and planning guidelines for development of wind energy facilities in Victoria, p.6
A number of proponents advised the Committee that they would be supportive of such an arrangement in Victoria.\footnote{Dr I Lawrie, Manager, Planning, Acciona Energy, Environment and Natural Resources Committee public hearing – Port Fairy, 10 August 2009, transcript of evidence, p.107; Mr K McAlpine, Government Relations Manager, Vestas, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.6; Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.16; Union Fenosa Wind Australia, submission no.31, p.4} Origin Energy expressed frustration at the need to obtain approval from multiple agencies with little or no coordination between them, for instance VicRoads approval is required for the transportation of key components such as wind turbine blades and tower sections.\footnote{Origin Energy, submission no. 10, p.2} Moyne Shire provided the example of writing to Aboriginal Affairs Victoria (AAV) for advice in January 2009 on The Sisters wind farm proposal. Over 90 per cent of the shire is not represented by a registered Aboriginal party. AAV’s response did not arrive until the first week of September, one month after the council refused to grant a permit.\footnote{Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.153}

Technical Reference Groups (TRGs) fulfil a number of functions in relation to the preparation of an Environment Effects Statement. The membership of a TRG is drawn from Government agencies, regional authorities and municipal councils that have a statutory policy interest in the project. The proponent participates in TRG meetings.\footnote{This section is drawn from the DSE, 2006, Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978, p.14} According to the \textit{Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978}, the primary role of a TRG is to advise:

- the department on matters that should be included in the scoping requirements for an EES;
- the proponent on the need for and adequacy of technical EES studies in terms of their consistency with good practice standards of methodology and analysis; and
- the department on the technical adequacy of the proposed EES, as well as the adequacy of its response to relevant matters.

The TRG provides advice and assistance to the proponent on:

- required statutory approvals and coordination of procedures;
- relevant policy provisions and related information requirements;
- study briefs and methodologies for key studies;
- availability of relevant data sets and research;
- conformity of the proposal and EES studies with policy and statutory requirements;
- design and implementation of the proponent’s consultation plan; and
- adequacy of EES specialist study reports.

Furthermore agencies and authorities participating in a TRG are expected to provide accurate and timely advice regarding matters for which their organisations have specific responsibility.
The Victorian Competition and Efficiency Commission, as part of its review of environmental regulation, examined the role of EES TRGs.\textsuperscript{484} The Commission in its draft report, found that the functioning of TRGs would be improved by requiring that TRG members are sufficiently senior to express the views of the Department or agency, TRGs develop an agreed timetable for the assessment and approval process and establish key check points, at which progress against the timetable would be assessed. Members of the TRG would not be allowed to raise issues that are outside the scope of the EES, except with the approval of the departmental secretary.

The benefits of including a TRG as part of the wind farm assessment process was explained to the Committee by Moyne Shire:

\textit{Even when you do environment effects statements as a technical reference group, that gets everybody in the one room at the one time so we all know what everyone is doing and the proponent can talk to all the government agencies at the one time. If that were hauled out and put into that process, good, and if that was then resourced, better.}\textsuperscript{485}

Some proponents argued that they are already required to produce technical assessments that are equivalent to an EES process, without the benefit of the timeframes that the EES process provides.

As stated above the Committee believes that there would be significant benefits from the appointment of both Technical Reference Groups and departmental Project Managers for all renewable energy facility applications. The TRG and departmental Project Managers should be formally integrated into the assessment process, as a matter of urgency. The Committee noted that the appointment of case managers is proposed in the exposure draft of the Planning and Environment Amendment (General) Bill 2009 for state significant developments.\textsuperscript{486}

\begin{tabular}{|l|}
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**RECOMMENDATION 5.6** \\
A departmental Project Manager be appointed to each renewable energy facility project.  \\
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**RECOMMENDATION 5.7** \\
A Technical Reference Group be established and integrated into the assessment process for all renewable energy facilities.  \\
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\textsuperscript{484} Victorian Competition and Efficiency Commission, \textit{A sustainable future for Victoria: getting environmental regulation right, draft report}, March 2009, p.125

\textsuperscript{485} Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.157

\textsuperscript{486} Department of Planning and Community Development, December 2009, \textit{Modernising Victoria’s Planning Act. Planning and Environment Amendment (General) Bill 2009, Commentary on the draft Bill}, p.48
Policy and planning guidelines

The **Policy and planning guidelines for development of wind energy facilities in Victoria** were released by the government in 2002. The guidelines outline the government’s renewable energy policy, the role of wind energy projects in Victoria, the assessment mechanism for projects of 30 megawatts or more and the planning framework for consideration of all wind energy projects. During the course of this inquiry the guidelines were revised by the DPCD and published in September 2009 – following the final public hearing in this inquiry. The Committee therefore did not receive evidence on the new guidelines. DPCD advised the Committee in July 2009 at a briefing, that the review ‘will just iron out some administration enforcement issues in relation to the planning systems, providing further clarity for proponents in the community around those sorts of issues. So the update is to basically reflect current practice. It is not about policy change; it is about technical matters’. Examples cited to the Committee included aviation obstacle lighting, application of the New Zealand noise standard, post-construction monitoring and the wind atlas and landscape assessment studies that have been prepared by government.

The Committee regards the changes to the guidelines as more substantial than ‘administration enforcement issues’. For example there are new sections in the guidelines on pre-application consultation with stakeholders, the application of wind energy facility noise standards and planning permit administration and enforcement. Changes have also been made in relation to flora and fauna surveys with the guidelines now indicating that ongoing monitoring may be required as a permit condition. Previously ongoing monitoring was qualified ‘for up to two years’ as a possible permit condition.

DPCD advised that ‘the department consulted with other departments as part of the review but we did not embark on a public consultation program in the way that you might consider it. We were more about providing an update to technical requirements rather than specific and broad policy changes’. Both proponents and local government have been critical of the lack of opportunity to contribute to the review process. Pacific Hydro noted in its submission to the Victorian Competition and Efficiency Commission review that: ‘The wind industry and Pacific Hydro worked collaboratively with Sustainable Energy Authority Victoria when the Victorian Policy and Planning Guidelines (PPG) were first published in 2003. We understand a review of the PPG is underway however we gather that there are currently no plans to consult with industry. We are concerned that as recipients and main users of the PPG the wind industry should be involved in the review to ensure industry needs are reflected’. Similarly, Moyne Shire advised that:

> … the level of secrecy that surrounds [the review of] these guidelines has been excessive, counterproductive and totally frustrating for Council. Anecdotally we have heard some developers have been consulted, while others have not. Moyne Shire has not been consulted although we have dealt with more applications than any other local government authority and have 40 per cent of all the state’s proposals … Little faith is held that ‘reviews’ conducted in secret, will address any substantive issues, and reinforce the view of the excessive secrecy of the original guidelines development process. The absence of consultation reinforces the perception that the state government does not see any significant role for local government in the development of policy for this industry. Contrast

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487 Ms G Cann, Senior Policy Officer, Statutory Initiatives, Department of Planning and Community Development, briefing to the Environment and Natural Committee – Melbourne, 21 July 2009

488 Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009

489 Pacific Hydro submission to the Victorian Competition and Efficiency Commission, Inquiry into environmental regulation in Victoria no.65, p.2, 26 March 2009
The Committee understands that some proponents were unaware of the review.

Given the importance of the guidelines to the wind industry and community, the Committee has concluded that a more consultative and transparent review of the guidelines should have been conducted by DPCD. The Committee believes that the opportunity to incorporate valuable input from the industry, local government and the community, on many of the issues raised as part of this inquiry, has been missed. The Clean Energy Council recommended that the wind industry must be consulted with respect to any review and update of the guidelines and the establishment of standardised approval conditions (discussed below). The Committee agrees with this recommendation but believes all future reviews and policy development relating to renewable energy should involve key stakeholders – industry, local government, state government departments and the community.

Accordingly the Committee recommends that:

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<th>RECOMMENDATION 5.8</th>
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<td>Key stakeholders, including local government, should be consulted as part of the development, review and reform of renewable energy policy and regulation in Victoria.</td>
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A number of proponents recommended that a set of standard development approval conditions be developed for wind farm projects. Such conditions would provide greater certainty regarding what is expected of proponents by planning approval authorities. NewEn Australia suggested that a ‘reasonability checklist’ be developed such that ‘once a developer has been able to provide documentation that each point on that checklist has been dealt with to satisfaction, there is a very high probability that the development is ... approved (unless there are very good and strong reasons why it should not)’. The Clean Energy Council identified a number of issues that could be covered in standard conditions in its written submission to the inquiry, including:

- tip height limits – it is contended that this should be unlimited as there is no correlation between height above sea level and tip height so it is an arbitrary point;
- Civil Aviation Safety Authority lighting requirements and aviation safety;
- roads;
- site refurbishment;
- minimum setback distances from neighbouring houses; and

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490 Moyne Shire Council, Environment and Natural Resources public hearing – Port Fairy, tabled documents, 7 September 2009, pp.9–10
491 Clean Energy Council, submission no.22, p.4
492 For example, Acciona Energy, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.109; Union Fenosa, submission no.31, p.4
493 NewEn Australia, submissions no. 17, p.6
• timeframes for construction completion; and flora and fauna management and reporting.\textsuperscript{494}

The scope and number of technical assessments required as part of a permit application was also identified as an issue that required further clarity.\textsuperscript{495} The Committee also noted that the fundamental issue of cumulative impacts has not been addressed in the revised \textit{Policy and planning guidelines for development of wind energy facilities in Victoria}.\textsuperscript{496}

The Committee believes that there is merit in the formulation of standard development approval conditions, for the reasons outlined by proponents above. The Environment Defenders Office (EDO) informed the Committee that the current policy and planning guidelines set out some broad parameters as to process, but do not really give any clarity around what is expected of proponents in terms of, for instance, the detail of assessing biodiversity impacts or the impacts on native vegetation.\textsuperscript{497} The EPBC Act is an example of where detailed policy guidelines that are wind energy industry specific have been developed outlining how the Commonwealth Government is likely to treat wind energy proposals under the act.\textsuperscript{498} The EDO advised that:

\begin{quote}
From a legal point of view they are not binding on anyone, and the Commonwealth and the minister cannot fetter their discretion or change the Act by issuing guidelines and so forth. Nonetheless there is a statement as to how they interpret the legislation and what their expectations are. It would address some of the problems that have been identified in some of the wind energy proponent's submissions, such as 'We understand the guidelines, but then the regional officers of DSE seem to have a different approach', and so forth. Some greater clarity around how things are expected to operate would benefit all concerned.\textsuperscript{499}
\end{quote}

Moyne Shire has been proactive in this respect and recently adopted a \textit{Major Development Proposals Local Policy} that applies not only to wind energy facilities where the Minister for Planning is the Responsible Authority but also to applications for major projects for which the Council remains the Responsible Authority, including wind energy facilities under 30 megawatts.\textsuperscript{500} It states that for Moyne Shire, the significant issues with major projects tend to be the on site and off site cumulative effects, environmental values and traffic management matters. The policy provides guidance on the pre-application and information review stage, community engagement, traffic management issues, noise, setback requirements, fire risk, visual amenity, loss of rural landscape, native vegetation, aviation safety lighting and aviation matters, cumulative impact and community issues. It is designed to fill the current gap between the state \textit{Policy and planning guidelines} and approvals process for wind farms in the Moyne Shire.

Under proposed changes to the \textit{Planning and Environment Act 1987}, state significant development proposals would first be submitted to the Secretary of DPCD for review and advice on requirements for an impact report, public information and engagement strategies. According to the DPCD, while report requirements will be able to be tailored to the nature of the development, they will be based on publicly available guidelines.\textsuperscript{501} They will include details of the development, relevant impact

\textsuperscript{494} Clean Energy Council, submission no. 22, p.4
\textsuperscript{495} Clean Energy Council, submission no. 22, p.4; Origin Energy, submission no.10, p.4
\textsuperscript{496} Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.88
\textsuperscript{498} Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing - Melbourne, 10 August 2009, transcript of evidence, pp.88–89
\textsuperscript{499} Moyne Shire Council, September, October or November 2009, \textit{Major Development Proposals Local Policy}
\textsuperscript{500} Department of Planning and Community Development, August 2009, \textit{Modernising Victoria's Planning Act, Response Paper no. 4, State significant major development}, p.2
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assessments and studies for consultation with agencies, referral authorities and the community. Regularly occurring projects, such as wind farms, will be simplified through standardised report requirements. No further details of such requirements were available at the time of writing this report. The Commentary on the exposure draft of the Bill states that: ‘There is scope to have standardised impact report requirements for regularly occurring projects, such as a wind farm’. 501

The Committee believes that there is merit in the development of standard development approval conditions to increase proponents’ understanding of what is expected by responsible authorities regarding planning applications. Such guidelines, including a comprehensive checklist, would also streamline the assessment of permits.

Accordingly the Committee recommends that:

**RECOMMENDATION 5.9**

Standard development approval conditions should be developed by the Department of Planning and Community Development for permit applications for renewable energy facilities. The conditions should be developed in consultation with local government, the renewable energy industry and the community. The conditions would not preclude the application of additional policies developed by local government on renewable energy facilities.

Planning panels

Where the Minister for Planning is the responsible authority for a wind farm application and objections and submissions have been received, the Minister must refer the proposal to a Planning Panel. 502 According to the website, panels are appointed to give independent advice to the planning authority and/or Minister about a proposal and submissions referred to it. 503 Planning Panels Victoria (PPV), within the Department of Planning and Community Development, manages the conduct of individual panels. They are usually comprised of one or more members, depending on the complexity or significance of the matter and the type of issues that have been raised. All of the wind farm permit call-in reports available on the PPV website were prepared by two or three panellists. The reports contain recommendations, not decisions, for consideration by the relevant planning authority and/or the Minister.

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501 Department of Planning and Community Development, Modernising Victoria’s Planning Act, Planning and Environment Amendment (General) Bill 2009, Commentary on the Draft Bill, December 2009, p.48

502 Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee - Melbourne, 21 July 2009

The basic role of a panel is to:

- give submitters an opportunity to be heard in an informal, non-judicial manner. A panel is not a court and is not bound by formal rules of evidence;
- give expert advice to the planning authority or the Minister about an amendment or application and about submissions referred to it; and
- the panel may inquire into all aspects of the planning amendment or application and submissions.\(^{504}\)

The nexus between Planning Panels and the DPCD was explained to the Committee by Mr Keith Jackson, Regional Director for DPCD in the Grampians and Barwon South West Region.\(^{505}\) The department prepares an overview submission for planning panels appointed to consider submissions. Administrative and logistical support to panels during the public hearing process is provided by DPCD. The department also prepares the briefing that goes to the Minister for Planning to facilitate the Minister’s consideration of the panel’s report and recommendations and to inform the Minister’s final decision.

In evidence and information provided to the Committee, the department emphasised:

- the ‘independence’ of the panels;\(^{506}\)
- that the panel members selected from PPV’s members list are experienced with wind farms; and
- the panel hearings are a formal mechanism that allow the community to have a direct input - to influence or provide information that needs to be considered - as part of the decision making process.\(^{507}\)

Mr Jeffrey Gilmore, Executive Director, Planning Policy and Reform, DPCD advised the Committee that:

… at the moment it [the Planning Panel process in relation to wind farm applications] is working in a very streamlined way. I do not think the problems that occurred 18 months or two years ago continue to occur, as the state of knowledge has increased, bearing in mind … this level of innovation.\(^{508}\)

Proponents were in general critical of the role of planning panels in the approvals process. The evidence received by the Committee indicates ongoing issues with the planning panel process in relation to wind farms.

\(^{504}\) Department of Planning and Community Development, 2007, What is a panel? brochure, adapted from Planning Panels Victoria

\(^{505}\) Mr K Jackson, Regional Director, Grampians and Barwon south west regions, Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.205

\(^{506}\) Emphasis added

\(^{507}\) Mr K Jackson, Regional Director, Grampians and Barwon south west regions, Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.205 and Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009

\(^{508}\) Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, 21 July 2009
Submissions to the inquiry were received from three of the four wind farm proponents that have been considered by panels in the last two years – AGL, (Oaklands wind farm); WestWind Energy (Lal Lal wind farm) and Hawkesdale (Union Fenosa). Union Fenosa stated that the panel process provides an opportunity for independent recommendations and also meaningful public comment and submissions.\textsuperscript{509} However the company also reported that panels took too long (six to eight weeks) to make their final recommendations and the hearings sometime extended over four or five weeks which was costly when lawyers and barristers were involved. AGL calculated that the panel hearings and processes associated with the native vegetation act adds approximately $500,000 on top of a typical $2 million project development budget. As Mr Nigel Bean, Head of Generation Development at AGL explained ‘that is an impost of the order of – however you express it – 20 to 25 per cent, compared to a relatively smoother process elsewhere’.\textsuperscript{510} The Committee was advised that other jurisdictions do not have a similar planning panel arrangement.\textsuperscript{511} In South Australia, planning panels may make a decision on the same day as the site inspection and verbal submissions are made. In New South Wales for projects above 30 megawatts a public process like planning panels would not be held.

WestWind Energy outlined its concerns in relation to the expertise of panel members:

- lack of background information on the site and on wind energy generally. This could be resolved by having panel members with experience of the issues associated with wind farms;
- an initial informed site inspection before the hearing commences would significantly benefit proceedings;
- panels often go well beyond the requirements of the policy and planning guidelines. Examples include: requirements for a significant number of photomontages, specific detail on power line routes (power lines will often not require a permit) and decommissioning. This makes every project more and more complicated, less predictable and more confusing for all parties; and
- panels are mainly experienced in making recommendations to planning authorities on planning scheme amendments. Consideration of planning scheme amendments generally relate to matters of policy. In the case of wind energy facilities, panels are in a position to make recommendations on matters relating to the implementation of policy – i.e. the permit process. This may be why the policy and planning guidelines are often questioned, never considered adequate and onerous planning permit conditions are often applied. In any event every new project becomes more complex and inconsistent.\textsuperscript{512}

The Committee reviewed the membership of the planning panels appointed to consider wind farm applications that were subsequently approved. Twenty individual PPV members have sat on planning panels for wind farm applications in Victoria. Only three members have sat on four or more wind farm panels and 50 per cent of the 20 members have sat on one wind farm panel.

\textsuperscript{509} Mr A Terrill, Associate, Tract Consultants on behalf of Union Fenosa Wind Australia, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.28

\textsuperscript{510} Mr N Bean, Head of Generation Development, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.56

\textsuperscript{511} Mr N Bean, Head of Generation Development, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.53–54

\textsuperscript{512} WestWind Energy, submission no.30, pp.6–7
Finally, proponents also argued that planning panels revisited similar planning issues. As the Clean Energy Council explained:

Under the current planning framework, each wind farm application is considered on a site specific basis. This necessitates proponents to ‘reinvent the wheel’ with each new application. Many of the issues that are raised by objectors to wind farm development have already been considered and resolved in previous applications/considerations eg. Bird and bat kills, shadow flicker, noise, electromagnetic interference, land values, effectiveness of greenhouse gas abatement and landscape value impact.

Panels should be encouraged and empowered to take these issues into consideration and only re-open issues for determination where there is a clear departure from accepted facts.513

Under the proposed changes to the Planning and Environment Act 1987 the Minister will appoint an independent expert panel, through Planning Panels Victoria, to assess proposals and submissions.514 The expert panel will have an enquiry role and conduct public hearings to consider submissions. The Committee understands that the role of the current planning panels is to resolve issues raised in submissions, whereas the expert panels will have more scope to consider projects beyond matters raised in submissions. Under the current legislation, Permit Call-in Panels Reports are released at the Minister’s discretion.515 The Committee understands that all expert panel reports will be released publicly. The distinction between the two types of panels is not clear to the Committee.

The Committee believes that Planning Panels (and the proposed Expert Panel) are an important component of the approvals process. The panels allow the community to express their views on wind farm planning applications in a direct and immediate way. This issue is explored further in chapter 6. The panels also inform the Planning Minister’s final decision on granting or refusing a planning permit. However, the Committee also believes that the panel process would be strengthened if greater consistency was applied in allocating panel members to consider wind farm applications, in order to develop expertise in the area and improve the efficiency of the process.

The Committee also believes there is merit in the systematic documentation of principles that have been applied at previous planning panel hearings in relation to wind farm proposals. As the Environment Defenders Office noted:

I think the Clean Energy Council suggested there should be a systems of precedence developed at Planning Panels Victoria. Legally that would not happen; it is not a court or tribunal that is bound by precedent and so forth, but there is no reason why some principles that have developed over the course of several inquiries could not be documented and outlined such that the panel could then in any particular case manage its process more effectively by saying, ‘There is a body of knowledge that has developed in this area.

513 Clean Energy Council, submission no.22, p.2
514 Department of Planning and Community Development, Modernising Victoria’s Planning Act: State significant major development, Response paper no. 4, August 2009
Chapter 5: The planning approvals process

We know how to do, or we know what the best approach is to assessing, for instance, landscape impact and so forth. We do not need to go into the technical details there. Of course you can if you want, but we are quite happy to say, ‘Here is the default process for doing that, or our expectation as to how the evidence before will be presented’.516

This documentation would facilitate decision making and increase certainty for industry. Accordingly the Committee recommends that:

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<th>RECOMMENDATION 5.10</th>
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<tr>
<td>Planning Panels Victoria form a small team of members with substantial expertise in considering wind farm applications. The composition, qualifications and experience of the team should be set out on the Planning Panels Victoria website.</td>
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<th>RECOMMENDATION 5.11</th>
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<tr>
<td>Planning Panels Victoria document and publish the planning principles that have been developed and benchmarks set by panels on wind farm projects including bird and bat kills, shadow flicker, noise, electromagnetic interference, land values, the effectiveness of greenhouse gas abatement and landscape value impact.</td>
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Monitoring and enforcement

Regardless of whether a permit is granted by the Planning Minister as responsible authority or by the Minister after a ‘call-in’ from the responsible authority, the local council is responsible for enforcement of permit conditions according to the Policy and planning guidelines for development of wind energy facilities in Victoria.517 DPCD confirmed this at the hearing in Port Fairy, as Mr Mark Gregory, Senior Regional Planner, explained:

The department will enforce permit conditions as required. However, our position is that enforcement responsibilities will primarily rest with the local council. That is the way the act is set up at the moment. DPCD has a role in responding to planning permit conditions that require further information and further plans to be prepared. That is certainly within our role. But the responsibility to enforce after the fact, after the issue of the permit or on issues of non-compliance, is largely within the role of local councils.518

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516 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.88
517 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, p.34
518 Mr M Gregory, Senior Regional Planner, Grampians and Barwon South West regions, Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.209
According to the draft exposure bill, this arrangement is to be retained.

Local councils raised concerns about the current monitoring and enforcement provisions for wind farms. The concerns relate to not being fully informed of the permit conditions set out by the Minister for Planning; and a lack of in-house expertise and resources to monitor and enforce both permit conditions and post development plans. Mr Guest from Moyne Shire explained that:

Given that they [wind farm projects] were both ministerials, it is an issue of how that information is transferred, because that is an issue to us. The biggest obstacle is that if a council is going to be responsible from the moment the plans have been approved or enforcement, that is unclear. Does that mean if the minister issues a permit, such as he did for Macarthur five years ago ... The plans are in at the moment, the plans are then approved, and we are then responsible for enforcement. Some of the neighbours ring up and say, "You are not complying with the condition? Do we get a copy of the file? Do we know what is in the file? Do we know what was in and out of the agreement?" We get to see three or four of the major plans; they actually mention where you have got to consult with the council. There is nothing in them saying that all the plans have to be shown to us. At what stage practically do you get what you need to do to enforce it, if you had the time and the money to do so? Hopefully you do not have to enforce it, but this transitional phase from the minister being responsible for assessing and issuing the permit and then it all comes back to the council has got issues about how and what information you get, when you get it, who people complain to....

A number of councils in south west Victoria expressed similar views. The Chief Executive Officer of Ararat Council stated that:

I think the principle there is if a council is responsible for issuing a planning permit on a set of conditions, then it obviously has the onus of enforcing those conditions and monitoring those conditions. However, it would be unreasonable to have a minister issue a set of planning permit conditions and then expect a council to then go, enforce and monitor those conditions, particularly if they are extremely onerous, particularly if they are expensive and particularly if there are staff that do not have that expertise.

Post development plans are significant and extensive. The Moyne Shire advised the Committee that "The core of a wind energy facility permit (no matter who is the Responsible Authority) is the required plans to be prepared by the applicant and endorsed that control the built form of the proposal and all other relevant matters. Approving these plans is not a simple task. It happens well after the permit is issued, and illustrates that issuing a permit is only part of the process." The shire tabled an example of such permit conditions from a recent project. As Mr Guest explained: "You can see that there are only 20 to 25 separate plans that you need to provide. Outside of that, the right hand column says that other acts are involved. Some of those acts are nothing to do with the planning..."
permit process. Just because the planning permit says you can do it does not mean that you do not have to go off and get further permission to close roads, open roads or whatever”.523

The Committee believes that monitoring and enforcement forms a critical stage of the process, particularly in maintaining community confidence and support for a project. The Committee is also concerned that Councils do not necessarily have the information, expertise and resources to satisfactorily fulfil that function. Accordingly the Committee recommends that:

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<th>RECOMMENDATION 5.12</th>
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<tr>
<td>The Minister for Planning be responsible for the monitoring and enforcement of conditions set out in all wind farm permits and post development plans.</td>
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Cumulative impact

As the number of wind farms in Victoria grows, the issue of cumulative impacts becomes of increasing importance. Both proponents and local councils identified the need for greater policy guidance on evaluating the cumulative impacts of multiple wind farms as well as other major developments in a region such as south west Victoria. There are only two mentions of cumulative impacts in the revised Policy and planning guidelines for development of wind energy facilities in Victoria. According to the guidelines an explanation of why a site is suitable for a wind energy facility should include the cumulative effects of the proposal having regard to other existing or proposed wind energy facilities in the area. Cumulative impacts are also listed in the section on landscape and visual amenity. However there is no definition of what cumulative impacts are or how such impacts should be evaluated. Union Fenosa stated that:

[The need for benchmarks or standards to determine acceptable impact levels arising from wind farm proposals] is also the case for the cumulative impacts which are required to be addressed as part of applications for wind energy facilities. No standard or accepted clear policy position is available to guide requirements for applications or their assessment by either DPCD or a panels process.524

Officers representing the Grampians and Barwon south west regions of DPCD were asked by the Committee at a hearing how the cumulative impacts of wind farms will be managed by the department. Mr Keith Jackson, Regional Director advised the Committee that:

What you are saying is: how do we manage the cumulative impact? At what point does that come into place? As you are aware, each of the applications are managed by a panel, and so if they need to go through a process, clearly that is one of the areas that they are required to address. As that comes on stream, depending on where it is, they have to make a determination and take those sorts of things into consideration. Again, you can have a plan on a map that says, ‘This is where they might be’, but until they are actually there, the cumulative impact will not occur. We have a planning panels

523 Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.154
524 Union Fenosa, submission no.31, p.4
The experience of Moyne Shire suggests that policy and planning guidelines are not being implemented. The shire explained that The Sisters wind farm application that the council has received, comprising 12 towers, does not make reference to the Mortlake proposal of 60 towers. The Minister for Planning is the responsible authority for the Mortlake proposal which is located 500 metres from The Sisters proposal. The shire’s new policy on major development proposals sets out the shire’s expectations in relation to the management of cumulative impacts. The joint submission from councils in the south west of Victoria also noted that cumulative impacts extend beyond the visual to include noise, access, grid connection and flora and fauna concerns.

The Committee believes that the current policy and planning guidelines need to provide more detailed guidance on cumulative impacts. The recently released draft National wind farm development guidelines may provide some direction in this regard. The guidelines discuss cumulative impacts in relation to community and stakeholder consultation, landscape, birds and bats, shadow flicker and electromagnetic interference. The Committee believes that DPCD should take a more proactive stance towards anticipating and planning for the cumulative impacts of not only wind energy facilities clustered in specific regions of Victoria but also other major developments. Such clusters not only represent challenges but also many opportunities with the co-location of infrastructure or coordination of road infrastructure for example. Accordingly, the Committee recommends that:

### RECOMMENDATION 5.13

Detailed guidelines on the cumulative impact of renewable energy facilities should be developed as part of the standard development approval conditions (see recommendation 5.9).

### RECOMMENDATION 5.14

Strategic regional plans should be developed by the Department of Planning and Community Development to assist local councils and communities manage the cumulative impacts of multiple, concurrent major developments, including wind energy facilities.

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525 Department of Planning and Community Development, Mr K Jackson, Regional Director, Grampians and Barwon South West Regions, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.207

526 Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.159; personal communication, 25 November 2009

527 Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24, p.13

528 Environment Protection and Heritage Council, National wind farm development guidelines – public consultation draft, October 2009
# Key findings

## 6.1 Wind farm developments have evoked passionate responses from the community and proponents in Victoria. Proponents have described some opponents as vexatious, whilst opponents have described wind farm turbines as ‘monstrous toys’. Despite these extreme positions, limited surveys of community attitudes towards wind farms in Victoria and overseas show that 60–70 per cent of people find wind turbines an attractive element in the landscape, with the remaining respondents split evenly between undecided or disliking turbines.

## 6.2 The Policy and planning guidelines for development of wind energy facilities in Victoria provide limited guidance on community consultation. However detailed methodologies have been developed by the Environment Protection and Heritage Council and the former Australian Wind Energy Association. A certification system has been developed in response to the need for sound environmental and social management in the wind energy industry. A limited number of companies have applied to participate in the scheme to date.

## 6.3 Community groups and individuals expressed reservations about the efficiency of wind farm technology and greenhouse gas reductions achieved. The impact of turbines on property values; noise and health impacts, potential fire risk and impact on livestock were also common concerns.

## 6.4 The main concerns relating to the community consultation process, in the view of proponents, is the planning panel process – the length and substance of the hearings.

## 6.5 Local councils highlighted both the negative and positive impacts of wind farms on their area. Some of the significant benefits include the original and ongoing investment in the region. However wind farm and other major developments have also had an impact on local tourist industries, created accommodation shortages and social tension.

## 6.6 Community led approaches to identifying suitable sites for wind farms and the establishment of community engagement committees may address some of the negative social and economic impacts of wind farm developments on small communities.
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

... Another impact has been from the tourist activity and the amount of people who go out there [to the wind farms in Wattle Range Council, South Australia] now. The locals drive at their normal pace; the tourist traffic tends to go even slower, even stopping at some places, jumping fences. I do not know why they do it, but they hug turbines, apparently.529

Mr Frank Brennan, Chief Executive Officer, Wattle Range Council

... I am an objector, because I wish to protect my family’s health, assets – the assets include a heritage-listed house and garden, particularly the garden, which is listed as one of the 1001 gardens worldwide to see before you die; it is going to be destroyed – and a rural way of life from a proposed wind farm. The record says I will fail and fail spectacularly. But do I have a choice? This farm and historic property is now unsaleable. In fact my wife and I have had to leave because we just could not look at the vista every morning and know it was going to be destroyed. We are genuine refugees from a proposed wind project. Now my children are living there with their children but I really fear for their health. I am sure they will have to leave.530

Mr Peter Mitchell, Western Plains Landscape Guardians Association

It is important to take note of what is the 90–10 rule: that less than 10 per cent of the wind farms get 90 per cent of the media. There are many wind farm projects in Victoria that have gone through the planning process where I could list the names of them and I would guarantee you have probably never heard of them because they were not controversial. Sure there were a handful of people who put in objections, three or four, and the last two projects I worked on had three written objections each. There were a couple of projects, particularly in Gippsland, which were very controversial and you think of those, but that is not a representative sample of the controversy wind farms have [created].531

Mr Jonathan Upson, Project Manager, Infigen Energy

Introduction

Community acceptance of wind farms is an important prerequisite for successful project applications and long-term outcomes. Given that wind farms are increasingly large industrial facilities that extend across extensive sections of the landscape, the Committee believes that effective and thorough community consultation is vital. This chapter is relevant to part a) of the terms of reference relating to major obstacles facing investors in large-scale renewable energy projects in Victoria as some of the proponents have advised the Committee that they regard some community representatives as vexatious and lengthy planning panel hearings as a barrier to investment in renewable energy projects. Given that proponents lease land from landholders to site their turbines, local and wider community support is essential. Term of reference c) relates to opportunities to reduce risk and delays for investors including through streamlining appeals processes. The community’s opportunity to contribute to wind farm proposals through planning panels is discussed in this context. This chapter also relates to term of reference d) as the community’s desire to respond to the problems of greenhouse gas emissions and climate change is a significant future driver of renewable energy in Victoria.

529  Mr F Brennan, Chief Executive Officer, Wattle Range Council, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.232
530  Mr P Mitchell, Western Plains Landscape Guardians Association, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.94
531  Mr J Upson, Project Manager, Infigen Energy, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.5
At the outset of the chapter, the Committee noted that the sheer volume of documentation associated with wind farm applications is a barrier to community consultation. For instance, the summary of the Stockyard Hill Wind Farm project is 21 pages.532 Moyne Shire Council advised that the Hawkesdale wind farm application is a very large document: ‘It is not the biggest farm. It is just one of the ones that is about 60 towers. Volume 1 of the accompanying report was 486 pages, volume two was 210 pages and there was a supplementary volume that was another 234 pages. Physically even notifying the community and having copies for them to look at – even if they wanted to read 800 pages inside four weeks – is getting very difficult. It is too big and complex in that sense’. The Committee understands some of the frustrations and difficulties of communities trying to comprehend the details of such projects without the assistance of experts, as proponents have such access and resources. The Committee has made five recommendations it believes will improve community understanding of wind farms, the community consultation process and the social impacts of such developments.

This chapter examines community attitudes towards wind farms and the community consultation process. Community concerns regarding wind farm projects, both substantive and procedural, are then discussed. The perspective of proponents and local councils with regard to community consultations and the social impacts of wind farms are outlined. The community consultation process associated with the Challicum Hills wind farm near Ararat is provided as an example of sound and effective community consultation.

**Community attitudes towards wind farms**

The construction of wind farms in Victoria and other Australian jurisdictions has elicited passionate and contrasting responses from the community, as illustrated above. The level of support for wind farms in Victoria and other jurisdictions533 depends on a number of factors including the size and profitability of properties and land use. As the Secretary of DPI explained: ‘In general terms it seems that the most successful proposals are ones where they [proponents] go not necessarily to the state’s best wind resources but where you have reasonably large properties, so relatively low density population, normally working farms rather than amenity properties…’.534 In such instances the impacts on neighbouring properties may be minimised and those most impacted on receive the financial benefits of lease payments.

Some submissions to the inquiry explained that the projects cause substantial community division and stress.535 The submission prepared by the Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool stated that ‘the social and economic aspects of major projects have lasting impacts on local communities. In some instances these are very direct and pit neighbour against neighbour where one sees a financial benefit from a lease for example, and another gains no financial benefit and sees only negative impacts from vegetation removal, visual

532 Origin Stockyard Hill Wind Farm, Summary guide, December 2009,
533 For example refer to: Mayor M Braes, Wattle Range Council, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.230
534 Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009
535 For example refer to: Mr B Keen and Ms H Barker, submission no.14, p.3, Macarthur-Hawkesdale Landscape Guardians, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.191
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intrusion ...'. Wellington Shire Council advised that unfortunately its experience with the local community has shown a generally negative reaction towards wind energy facility development.

On the other hand, in Hepburn Shire, central Victoria, a cooperative has been established to develop a four megawatt wind farm to supply enough electricity for most of the 2,300 households in Daylesford and Hepburn Springs. The cooperative has experienced difficulties raising the required capital but expects to finalise contracts with the turbine supplier, electricity grid operator and electricity retailer in early 2010. This project illustrates strong support for wind farms within that community. Another area of strong community support for wind farms is Ararat in the state’s south west. Mr Eoghan McColl, Planning and Building Manager at Ararat Rural City Council explained that:

Having worked in Ballarat and shifting further west ... I think the concept of what the farming area is and what it is actually meant to do is different. Recognising the Grampians and Mount Langi Ghiran, you have got some clear iconic vistas and views but land that the farmers use is there to be used to produce something. I think the idea of a wind farm works within their concept ... I think the other advantage ... of the Challicum Hills site was that it was and has been shown to be in an area that had relatively low conservation flora and fauna values ...

Perception studies show that in many Australian and overseas examples that between 60-70 per cent of people find wind turbines an attractive element in the landscape, with up to 15 per cent of respondents undecided and 20 per cent disliking wind farms. Environmental Resources Management Australia (ERM) found that although community consultation is undertaken as part of the planning process for wind farms, this consultation is mostly qualitative in nature, in that it seeks the views on a number of aspects of the wind farm development from specific stakeholders, including the local community, and those further away, as well as the views of special interest groups, government and local government agencies involved or impacted by the development. Furthermore this information is primarily anecdotal and is not rigorously documented.

The findings of the three Victorian studies, contained in the Mortlake wind farm proposal, are set out in figure 6.1. The surveys highlight that community support for wind farms is greater than 60 per cent. This is consistent with community perception studies conducted overseas.

536 Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool, submission no.24, p.17
537 Wellington Shire Council, submission no.19, p.1
538 Mr E McColl, Planning and Building Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.117
539 Environmental Resources Management Australia, Mortlake wind farm: preliminary landscape assessment, August 2007, p.4
540 Environmental Resources Management Australia, Mortlake wind farm: preliminary landscape assessment, August 2007, p.4
Figure 6.1 People’s perception and response to wind farms in Victoria’s landscape

Wind Farms on Coastal Headlands (Kantos and Quint for Department of Natural Resources and Environment, 2000) – participant response

Nirranda wind farm respondents attitudes to wind farms. A visitor survey was conducted in 2002 on the possible visual impacts of the proposed wind farm on the Bay of Islands viewing platform, located adjacent to the Nirranda site in the Shire of Moyne. When presented with a proposal from a scenic coastal lookout (Bay of Islands) the support for a wind farm at the location declined and opposition increased.

Level of support for potential wind farms at Yaloak and Crowland sites (2004).
Source: Environmental Resources Management Australia, Mortlake wind farm: preliminary landscape assessment, August 2007, pp.5–6
The Committee requested information on surveys conducted or commissioned by government departments on community attitudes towards wind farms. Mr Peter Naughton, Acting Executive Director, Energy Sector Development Division, Department of Primary Industries advised that:

*I am not aware of any DPI or other department having commissioned a formal survey of this kind.*

The Committee also asked local councils who had approved wind farms whether community surveys had been conducted. Corangamite Shire Council, Ararat Rural City Council, Wellington Shire Council and Hepburn Shire Council advised that community surveys had not been conducted. Although Corangamite Shire in partnership with Warrnambool Council is planning to assess community attitudes through a review of its rural lands policies and anticipates feedback on the suitability of places for wind farms through this process.

In Victoria, there has been criticism of the community consultation process by both wind farm proponents and opponents. Community consultation by proponents for some of the early wind farm projects was to some extent unsatisfactory and constrained by the investment climate and policy settings. As Mr Mark Wakeham, Campaigns Director of Environment Victoria explained to the Committee at a public hearing:

...we obviously need communities to be comfortable with renewable energy project development. I think that a lot of the issues that have arisen, particularly around acceptance of wind farms, have been a result of having very low federal renewable energy targets for so many years. From 1999 to 2007 we had a 2 per cent or 9500 gigawatt hour renewable energy target nationally. Basically that meant that the first 30 or so projects [Australia wide] that got through the door got up under that target. That meant that proponents had to rush their projects and rush their engagement with the community to ensure that their projects got financed under that federal renewable energy target.

*If we have a long-term target which is significantly higher, it allows a developer to know that they can spend as long as it takes – whether it is 12 months, two years or three years – to talk with the community and make sure they are comfortable with the proposal while knowing they are not going to miss out on the market mechanism to deliver the finance for their project.*

Conversely, some opponents to wind farms projects have been described as vexatious. The Committee has concluded that there are opportunities to improve the community consultation process from both the public and the proponents’ perspective.

**Community consultation**

Both the Department of Primary Industries and the Department of Sustainability and Environment emphasised to the Committee, the importance of sound community consultation on wind farm proposals. The departments also advised that community consultation is the responsibility of proponents. However, the government has identified a need for community education on renewable energy and the need to define community consultation by proponents.

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541 Department of Primary Industries, personal communication, 2 February 2010
542 Corangamite Shire Council, personal communication, 19 January 2010
543 Mr M Wakeham, Campaigns Director, Environment Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.70–71
Chapter 6: Community consultation and the social impacts of wind farms

The 2006 Victorian Government Renewable Energy Action Plan (REAP) outlines a series of objectives including to ‘build informed and engaged communities’.544 One of the key challenges for the Victorian Government in relation to facilitating investment in renewable energy projects in Victoria, identified in the government’s submission, is to ‘continue to develop, communicate and engage key stakeholders and the community in relation to the Government’s renewable energy strategies, policies and initiatives’.545 According to the most recent of these policy documents – the Victorian Climate Change Green Paper – the government already provides a number of information and education programs to help Victoria to adapt to climate change. ‘However, as the demand for information about climate change grows, the Government may need to expand investment in information, education, community engagement and behaviour change initiatives and place an even greater emphasis on making sure that information is locally relevant, practical and easily accessed’.546 The Committee believes that a comprehensive review of the extent to which the 2006 REAP objective has been met would be timely. The findings of such a review would assist in defining future strategic and regulatory priorities.

RECOMMENDATION 6.1

The Victorian Government evaluate and publish the outcomes of its 2006 Renewable Energy Action Plan objective to ‘build informed and engaged communities’.

In 2007 Sustainability Victoria released the publication Wind energy: myths and facts.547 The publication was prepared ‘in a bid to make Victorians aware of how wind energy can supply our state’s energy needs in the future’. It ‘dispels’ myths relating to greenhouse gas reductions, reliability, costs, community benefits, noise, birds and livestock, community support and location (including impacts on property values) and safety. The number of wind farm projects in operation and that have been granted approval, has increased exponentially since the release of the publication. Many of the myths addressed in the publication continue to be perpetuated by opponents to wind farm projects. The Committee believes that the document is useful and informative but the publication would benefit from revision and wider circulation. The revision could tap into the wealth of local knowledge and experience that has been gained from the many wind farm projects that have been subsequently developed in Victoria. Accordingly the Committee recommends that:

RECOMMENDATION 6.2

The Sustainability Victoria publication Wind energy: myths and facts be revised to reflect local experiences of wind farms and widely distributed.

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544 Victorian Government, submission no.21, p.6
545 Victorian Government, submission no.21, p.21
546 Department of Premier and Cabinet, Victorian climate change green paper, June 2009, p.82
547 Sustainability Victoria, Wind energy: myths and facts, May 2007
The main guidance from the state government on consultation with the community is set out in the 2009 Policy and planning guidelines for development of wind energy facilities in Victoria.\textsuperscript{548} The section entitled Pre-application consultation with community and stakeholders is new. The previous version of the guidelines contained only one sentence on the issue. Despite the title referring to the pre-application phase, the guidelines recommend that proponents develop a community and stakeholder communication and consultation plan, which the Committee understands would be revised and relevant for the life of a wind energy project. The Committee concluded that the guidelines are basic and contain sparse detail and direction to proponents on the complex process of community consultation on wind farm projects. Proponents are referred onto the very detailed but generic DSE Effective Engagement Kit and Best Practice Guidelines for Implementation of Wind Energy Projects in Australia developed by the former Australian Wind Energy Association.

More detailed guidance has been developed on community and stakeholder consultation by the Environment and Protection Heritage Council. The draft National Wind Farm Development Guidelines were released in October 2009 and contain a technical appendix describing:

- five principles which should be employed by wind farm developers when planning and delivering participation activities – focus, inclusive, responsive, open and transparent provision of information and timely feedback and evaluation;
- considerations for planning stakeholder participation programs, including preparing and delivering Communication and Consultation Plans and making an early commitment to stakeholder participation in the development process;
- a recommended methodology for planning and delivering stakeholder participation activities associated with the various stages of a wind farm’s development; and
- requirements for stakeholder input into the assessment and management of key technical study areas (i.e. noise, landscape, birds and bats, shadow flicker and electromagnetic interference).\textsuperscript{549}

The level of stakeholder participation recommended is set out in table 6.2 below:

\textsuperscript{548} Department of Planning and Community Development, Policy and planning guidelines for development of wind energy facilities in Victoria, September 2009, pp.17–18
\textsuperscript{549} Environment Protection and Heritage Council, National wind farm development guidelines – public consultation draft, October 2009
Table 6.2 The level of stakeholder participation recommended for various stages of the wind farm development process

<table>
<thead>
<tr>
<th>Stage</th>
<th>Level of community participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site selection</td>
<td>Inform: to provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions</td>
</tr>
<tr>
<td>Project feasibility</td>
<td>Consult: to obtain feedback on analysis, alternatives and/or decisions</td>
</tr>
<tr>
<td>Planning application</td>
<td>Involve: to work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered</td>
</tr>
<tr>
<td>Construction</td>
<td>Consult</td>
</tr>
<tr>
<td>Operation</td>
<td>Consult</td>
</tr>
<tr>
<td>Decommissioning</td>
<td>Involve</td>
</tr>
</tbody>
</table>


While the methodology has been prepared to provide guidance to proponents, it can also act as a tool for stakeholders to understand:

- when participation in a wind farm development may commence and occur;
- how participation may occur; and
- what developers should do to support stakeholder participation in the wind farm development process.

A more detailed methodology of stakeholder participation by project stage is set out in figure 6.3.
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

### Figure 6.3 Stakeholder participation methodology by project stage

<table>
<thead>
<tr>
<th>Site Selection</th>
<th>PLANNING</th>
<th>CONSULTATION</th>
<th>TECHNICAL AREA STAKEHOLDER INPUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 – Site Selection (Regional)</td>
<td>Conduct background information on local areas, including wind development history (if any)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2 – Site Selection (Local)</td>
<td>Prepare a preliminary Communication &amp; Consultation (C&amp;C) Plan (to accompany site selection investigations only)</td>
<td>Implement Project C&amp;C Plan</td>
<td></td>
</tr>
<tr>
<td>S3 – High Level Risk Assessment</td>
<td>Prepare Project Communication &amp; Consultation Plan (to be implemented at next stage, if decision to progress investigations occurs)</td>
<td>Key milestones:</td>
<td>Bird &amp; Soil: Information sought from relevant government agencies (landholders/local)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Communication with potential project landowners</td>
<td>Landscape: Information and advice sought from local planning authorities on community landscape values</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Announce investigations to wider community (if decision to progress investigations occurs)</td>
<td></td>
</tr>
<tr>
<td>Project Feasibility</td>
<td>Review feedback received from community &amp; stakeholders, incorporate and/or consider feedback prior to progressing to planning application</td>
<td>Implement Project C&amp;C Plan</td>
<td>Notes: Noise logs/present on identified stakeholder properties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Key milestones:</td>
<td>Birds &amp; Soils: Site information sought from project landowners and naturalist bird observer groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Establishing dialogue with identified stakeholders</td>
<td>Landscape: Further info on landscape values sought from local planning authority, and identified local community members/NGOs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Inform stakeholders of project details and progress</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Consult with stakeholders to receive feedback and input</td>
<td></td>
</tr>
<tr>
<td>Planning Application</td>
<td>Review and/revise Project C&amp;C Plan where necessary</td>
<td>Continue to implement Project C&amp;C Plan</td>
<td>Noise: Provide background noise results to stakeholders (see PA1)</td>
</tr>
<tr>
<td>PA1 – Detailed Technical Studies</td>
<td>Review feedback received from stakeholders and incorporate into design where possible, Prepare Report of consultation conducted to date &amp; outcomes</td>
<td>Key milestones:</td>
<td>Landscape: Significant local community input sought to identify landscape values, potential impacts and mitigation measures</td>
</tr>
<tr>
<td>PA2 – Planning Application</td>
<td>Review feedback received from stakeholders and incorporate into design where possible</td>
<td>- Continue seeking feedback and input from stakeholders re understanding concerns and opinions and where possible, Incorporate into project design</td>
<td>EMI: Consultation with potentially affected agencies/organisations, e.g., Department of Defence, Air Services Australia, Bureau of Meteorology Telecommunications Corporations. Incorporate any concerns raised via project wide stakeholder consultation</td>
</tr>
<tr>
<td>PA3 – Planning Hearings</td>
<td>Provide prehearing with coordination of Planning application submission and hearing with approved body, where required</td>
<td>Continue to implement Project C&amp;C Plan</td>
<td>Notes: Notice &amp; Shadow Flicker: Develop complaints handling process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Key Milestone:</td>
<td>EMI: Regular consultation with potentially affected stakeholders (agencies, organisations and local community to identify impacts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Communicating construction activities</td>
<td>Landscape: Consult with affected parties regarding mitigation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Notes: Loggers placed at identified stakeholder properties to conduct noise monitoring</td>
</tr>
<tr>
<td>Construction</td>
<td>Review and revise Project C&amp;C Plan, Ensure inclusion of complaints handling process</td>
<td>Implement revised Project C&amp;C Plan</td>
<td>Noise &amp; Shadow Flicker: Develop complaints handling process</td>
</tr>
<tr>
<td>C1 – Finalisation of Management Plans</td>
<td>Coordinate appropriate signage and public information access points (e.g., web, local buildings)</td>
<td>Key Milestone:</td>
<td>EMI: Regular consultation with potentially affected stakeholders (agencies, organisations and local community to identify impacts)</td>
</tr>
<tr>
<td>C2 – Construction</td>
<td></td>
<td>- Seek input from stakeholders in final design plans</td>
<td>Notice: Loggers placed at identified stakeholder properties to conduct noise monitoring</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Landscape: Consult with affected parties regarding mitigation</td>
</tr>
<tr>
<td>Operation</td>
<td>Prepare Operational C&amp;C Plan, Consider opportunities for community access to facility</td>
<td>Implement Operational C&amp;C Plan</td>
<td>EMI: Monitor mitigation with affected parties</td>
</tr>
<tr>
<td>O1 – Operation</td>
<td></td>
<td>Key Milestone:</td>
<td>Shadow Flicker: Monitor mitigation effectiveness with affected stakeholders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Announce commencement of wind farm operation</td>
<td></td>
</tr>
<tr>
<td>O2 – Monitoring (Compliance)</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>O3 – Monitoring (Confirmation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decommissioning</td>
<td>Prepare Decommissioning C&amp;C Plan, Consider opportunities for community involvement in rehabilitation</td>
<td>Implement Decommissioning C&amp;C Plan</td>
<td>EMI: Consider history of complaints/impacts to stakeholders (if any) when decommissioning or redeveloping site</td>
</tr>
</tbody>
</table>

Source: Environment Protection and Heritage Council, Draft National Wind Farm Development Guidelines, October 2009, p.54
Chapter 6: Community consultation and the social impacts of wind farms

The Victorian Government’s submission describes public involvement in the planning approvals process as follows:

Victoria’s planning system is robust and comprehensive and provides an appropriate assessment process for land use and development proposals, including renewable energy projects. A fundamental part of this process is the opportunity for all stakeholders’ views to be considered and resolved with a high level of public involvement and acceptance. Victoria’s planning system provides for extensive public involvement. This includes notification and appeal rights for permit application, independent planning panel hearings where the Minister is [the] responsible authority or where an application is called-in by the Minister, or review by the Victorian Civil and Administrative Tribunal (VCAT) where the local council is the responsible authority.550

Mr Keith Jackson, Regional Director, Grampians and Barwon south west regions, DPCD, outlined the public consultation process for a wind farm proposal at a public hearing in Port Fairy:

With regard to [the] community consultation process, including the role of planning panels in the south-west region, DPCD encourages proponents to effectively engage with relevant stakeholders, including government and statutory agencies, councils and local communities, while they finalise their proposals and before a formal application is lodged. The formal public notice process undertaken as part of the planning permit application process usually allows a period of six weeks for lodgement of submissions and provides the affected persons the opportunity to make a submission and to be heard in support of this submission by an independent panel that comprises professional experts appointed from Planning Panels Victoria’s members list. The hearing conducted by the independent panel provides a structured forum for the review of the issues raised by submitters, including the proponent, and the merits of the proposal. What is important there is that there is a formal mechanism that indeed allows [the] community to present to that panel, to have direct input, to influence or to provide information that needs to be considered around the decision making process.551

DPCD also advertises planning applications in newspapers and notifies people within a radius of up to five kilometres of the proposed site.

550 Victorian Government, submission no.21, p.11
551 Mr K Jackson, Regional Director, Grampians and Barwon south west regions, Department of Planning and Community Development, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.205
Case Study: Community consultation for the Challicum Hills wind farm

The consultation process for the Challicum Hills wind farm, near Ararat in western Victoria reflects many of the ‘best practice’ principles set out above. The wind farm comprises 35 turbines with a capacity of 52 megawatts. Planning for the project commenced in 2001, predating the codification of any Victorian or national wind farm policies and guidelines.

The Committee believes that a number of factors have contributed to the success of the community consultation process. The starting point of Pacific Hydro – the proponent – was a commitment to the local community for the life of the project. As Mr Terry Teoh, Executive Manager Development, explained: the community engagement process ‘was driven by a sense that our social licence in the long-term had to be prepared on those foundations. It was not just about permitting it as a transaction; it was about looking across the project being there for 20 years’. The company also drew on international practice for permitting wind farms and ‘adopted all the thresholds and rigour that were found internationally in regard to flora and fauna and heritage and compatibility with existing infrastructure’.

The consultations were broad and included the local council, local community and various state agencies that had de facto responsibility for the environmental and social parameters of the proposed project. As Mr Teoh explained:

Along the way through there was a strong emphasis on explaining wind farming a new activity, both to agencies and to the community. Obviously the decision makers, the agencies and the community were comparatively unfamiliar with wind farming, so we felt it was very important to provide as much information as possible that everyone would be brought up to speed with their understanding of what the project entailed ... In terms of process, it was a case of going out to the community and engaging at a really broad level with Landcare groups, environmental concern groups, all the quadrants of the community that we could find either through representation or as individuals.

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552 Mr T Teoh, Executive Manager Development, Pacific Hydro, briefing to the Environment and Natural Resources Committee – Ararat, 25 August 2009
553 Mr T Teoh, Executive Manager Development, Pacific Hydro, briefing to the Environment and Natural Resources Committee – Ararat, 25 August 2009
554 Mr T Teoh, Executive Manager Development, Pacific Hydro, briefing to the Environment and Natural Resources Committee – Ararat, 25 August 2009
Chapter 6: Community consultation and the social impacts of wind farms

[The public education process] started by [Pacific Hydro] bringing props, turbines, all sorts of things into town. I think nearly every school child in Ararat or the municipality at that stage had the opportunity to come up with their family or their friends, close and personal, to touch, look, feel and see and demystify what this whole wind farm process was about. I think it cannot be underestimated how powerful that was in informing people, not based on fear but based on fact ...

Challicum Hills happened at a time before there was a lot of mainstream coverage of wind in particular as an energy source. The community in this area made up its own mind. Council facilitated a really strong consultation process. The community had its own look at it, and council as the planning authority for that project did not get a single objection. I think there would be other communities in the state where you would get a much different outcome, but I guess there was not some of the media hysteria around wind farms then that there is now ...

Ararat Greenhouse Action Group concurred with the Council and advised that Pacific Hydro 'pretty much set the benchmark [regarding community engagement] for anyone else who comes in'. 555

Pacific Hydro pioneered the concept of a Sustainable Communities Fund in Australia, whereby the company provides grant funding to the local community for various projects. Pacific Hydro has contributed a total of around $250,000 of grants to the local Ararat community over the last five years. Such funds spread the financial benefits of the wind farm project beyond the immediate landowners who receive annual payments of $7,000 to $9,500 per turbine on their properties.

The Committee noted that Pacific Hydro lists on its website, the Sustainable Communities Fund recipients for projects throughout Victoria. 556

Despite the low conservation value of the wind farm site, there is ongoing evaluation of the project’s impacts on avifauna such as the wedge tail eagle and the native vegetation offsets established in conjunction with Landcare.

The Committee spoke to two of the landowners with turbines located on their property – Mr and Mrs Maconachie. Mr Graeme Maconachie advised the Committee that the five turbines on his property did not disturb his livestock, including sheep and horses. 557 Noise, shadow flicker and soil erosion were not a concern and his property value has increased due to the turbines.

Community concerns regarding wind farm developments

Substantive concerns of the community

All of the concerns regarding wind farm projects raised in written submissions and evidence to the inquiry by individuals and groups, such as the Landscape Guardians, are reflected in recent planning panel reports on wind farm proposals. Most of these issues are addressed by the Sustainability Victoria publication Wind energy: myths and facts. 558 Each of these concerns is outlined below.

555 Mr R Pearse, Chairman, Ararat Greenhouse Action Group, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.129
557 Mr G Maconachie, Challicum Hills land-holder, briefing to the Environment and Natural Resources Committee – Ararat, 25 August 2009
558 Sustainability Victoria, Wind energy: myths and facts, May 2007
Greenhouse gas reductions and efficiency

Submissions to the inquiry questioned whether wind farms contribute to greenhouse gas reductions and the reliability and efficiency of wind farms in generating energy. Ms Kathy Russell advised the Committee of data from operational wind farms in South Australia as follows:

> All wind farms in all regions produce a common-characteristic output. This output is characterised by extreme variability, extreme unpredictability and extreme intermittency. Their output is typically somewhat less than one-third of installed capacity on average. The wind industry and its academic supporters concentrate on reporting average outputs only. They fail to report these other, negative performance aspects. Indeed, it could be inferred that they do their best to cloak these aspects in a veil of secrecy.

According to Sustainability Victoria, every unit of wind energy cuts greenhouse gas emissions with each megawatt hour of wind energy generated, avoiding the production of one tonne of greenhouse gas emissions, on average. The efficiency of wind farms is estimated in Victoria to be typically between 30 and 35 per cent. However the Committee understands that most of Australia’s current coal-fired electricity-generating plants are of a conventional design, with typical efficiencies of about 33 to 35 per cent. Sustainability Victoria also note that as an intermittent energy generator, wind energy forms part of a broad mix of energy supply technologies.

Property values

The Residents Against Turbines of Tooborac, the Western Plains Landscape Guardians Association, the Grampians Glenthompson Landscape Guardians and Macarthur-Hawkesdale Landscape Guardians expressed concerns about the impact of wind farms on property values. Ms Kathy Russell advised that: ‘The noise and visual impacts of these monstrous toys have profound effects on the value of the property assets of the same neighbours. In many instances, properties are rendered worthless, being unsaleable’.

According to Sustainability Victoria, while no formal studies have yet been carried out in Australia, studies in the USA and Denmark have found there is little to suggest that wind farms impact negatively on the value of neighbouring properties. Since the release of the Sustainability Victoria publication, the NSW Valuer General has produced a Preliminary assessment of the impact of wind farms on surrounding land values in Australia. The assessment investigated eight wind farms

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559 Mr H Cumming, submission no.4, p.1; Mr T Le Roy, submission no.5, p.4; Ms K Russell, submission no.8, p.3 and Mr B Keen and Ms H Barker, submission no.14, p.2
560 Ms K Russell, submission no.8, p.3
563 Ms K Russell, submission no.8, p.4
564 NSW Valuer General, Preliminary assessment of the impact of wind farms on surrounding land values in Australia, August 2009,
Wind farms do not appear to have negatively affected property values in most cases. Forty of the 45 sales investigated did not show any reductions in value. Five properties were found to have lower than expected sale prices (based on statistical analysis). While these small number of price reductions correlate with the construction of a wind farm, further work is needed to confirm the extent to which these were due to the wind farm or whether other factors may have been involved;

- results also suggest that a property’s underlying land use may affect the property’s sensitivity to price impacts. No reductions in sale price were evident for rural properties or residential properties located in nearby townships with views of the wind farm; and

- the results for rural residential properties (commonly known as lifestyle properties) were mixed and inconsistent. There were some possible reductions in sale prices identified in some locations alongside properties whose values appeared to not have been affected. Consequently no firm conclusions can be drawn on lifestyle properties.565

Noise and health impacts

The sound produced by wind turbines occurs from their internal operation and as the turbine blades pass through the air.566 The Committee was advised that the noise, both audible and low frequency, emitted from wind farms makes people sick and that the noise standards are outdated and unenforceable.567 According to Sustainability Victoria, advances in technology mean the mechanical sound from modern wind turbines has practically been eliminated. Noise is assessed using the New Zealand Standard NZS6808 and the planning process ensures that noise from all turbines is determined before the wind farm is built to ensure it is within the acceptable range. The Committee understands that WorkSafe Victoria, the Environment Protection Authority and the Department of Human Services is examining issues raised by some residents regarding sub-audible noise allegedly generated by the Waubra Wind Farm.

The draft National Wind Farm Development Guidelines acknowledge that there are risks that people living near a wind farm will be impacted by noise from the turbines and the impacts may relate to the volume, timing and/or character of the noise produced.568 There is also the potential for cumulative noise impacts should a new wind farm or an extension to an existing wind farm be proposed in close proximity to the existing wind farm. The draft guidelines ‘are intended to provide an effective way to

565 NSW Valuer General, Preliminary assessment of the impact of wind farms on surrounding land values in Australia, August 2009, p.2
566 Environment Protection and Heritage Council, National wind farm development guidelines – public consultation draft, October 2009, p.18
567 Ms K Russell, submission no.8, pp.1–2; Western Plains Landscape Guardians Association, submission no.15, p.3; Mr A and Ms H Lyon, submission no.18, p.2; Grampians-Glenthompson Landscape Guardians, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, pp.133, 137–138; Mr B Rogerson, Grampians-Glenthompson Landscape Guardians, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.133
568 Environment Protection and Heritage Council, National wind farm development guidelines – public consultation draft, October 2009, p.18
reduce noise impacts consistent with current environmental legislation’. An Australian standard – Acoustics: measurement, prediction and assessment of noise from wind turbine generators – is expected to be finalised soon.

**Fire**

Ms Annie Gardner from the Macarthur-Hawkesdale Landscape Guardians expressed concern that wind farms pose increased fire risks. She advised the Committee at its Port Fairy hearing that:

*I did a big submission to the Macarthur wind farm panel on fire and was denied any hearing basically because it said it was not an issue. That was generally overlooked as AGL continued to deny any additional risk from the proposal and that there is no greater risk with fire and wind farms. AGL then called the Country Fire Authority region 5 community safety officer, Paul Hill, to address the panel on the Macarthur wind farm, who claimed there was no more risk of fire on a wind farm than a normal working farm. That is total rubbish.*

The Grampians-Glenthompson Landscape Guardians argued that the Victorian wind energy guidelines are totally remiss in relation to the fire risk of wind farms. The draft national guidelines state that similar to other facilities where there is electrical equipment and flammable material, there is a risk of fire associated with wind farms. Although the risk is considered to be low, proponents should consult with local and regional fire authorities to ensure an appropriate fire management plan is in place to respond to a potential fire prior to the development of a site.

**Livestock**

Ms Annie Gardner from the Macarthur-Hawkesdale Landscape Guardians also highlighted her worry regarding the impact of a wind farm proposal on her livestock. Sustainability Victoria advise that there have been no reports of decreased production from farms as a result of having wind turbines on the land and animals graze normally around the towers without any discernable impact. Ms Gardner stated in her evidence that:

*One of the main concerns with the proximity of the turbines to our property is the effect of the low-frequency noise on our business and our sheep. In our shed we have 400 jacketed sheep, which is a highly intensive industry for the Italian high fashion. We breed our own replacements in the paddocks. The sheep are very low micron. They are very highly strung and have an extremely sensitive nervous system, so we do feel that this development will affect our paddock enterprise …*

This contrasts with the information provided to the Committee by farmers associated with the Challicum Hills wind farm.

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570 Ms A Garner, Macarthur-Hawkesdale Landscape Guardians, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.201
571 Mr B Rogerson, Grampians-Glenthompson Landscape Guardians, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.133
573 Sustainability Victoria, *Wind energy: myths and facts*, May 2007, p.10
574 Ms A Garner, Macarthur-Hawkesdale Landscape Guardians, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.192
Procedural concerns of the community

Individuals and the Landscape Guardian groups were critical of the consultation process. The main issues raised were:

- lack of community consultation in the project planning phase, particularly when proponents are gauging landowners interest in participating in a wind farm development and negotiations regarding leasing of land for the proposed development commence;
- not enough time is allocated at planning panel hearings to consider their views;
- difficulties procuring expert witnesses to assist them with presenting their case;
- perceived lack of transparency and mistrust of the planning approvals, including Planning Panels, process;
- wind farm proposals are not rigorously evaluated; and
- the sense that there is limited capacity for the community to make a difference regarding proposals.\(^{575}\)

Proponents and wind farm consultations

Consultation process

The community consultation processes undertaken for wind farm projects by two proponents – AGL Energy and Renewable Energy Systems Australia – were described to the Committee. Mr Nigel Bean, Head of Generation Development for AGL Energy explained that:

> We carry out a community consultation process, and have been doing so over a number of years. The structure of our community consultation is in line with the recommended best practice guidelines for wind projects. We essentially have an expanding profile of community consultation, initially starting with the owners we have contracted with to place equipment on their site, the neighbours in the immediate region and then the broader region. We would roll out a program which would typically include letter drops, media presentations, 1800 [phone] numbers and open days. We are committed to community consultation, and we can show and demonstrate that we have done that on all our projects, be they renewable or commercial in generation.\(^{576}\)

Renewable Energy Systems Australia is in the process of developing its wind farm application in the northern Grampians and Ararat region. Mr Chris Sweatman, Chief Operating Officer, stated that:

> The approach we have taken to [community consultation] is to identify and approach all residences within 5 kilometres: in the instance of current development we chose 5 kilometres as the relevant area. There would be house-to-house visits within that area and for anybody who was not around during that period we would leave some literature so that they were aware we had called and we would invite them to get in contact. We then went ahead with two open days, one at the initial announcement of the application process and a subsequent one shortly before submission, to show

\(^{575}\) Refer to Ms K Russell, submission no.8; Mr B Keen and Ms H Barker, submission no.14; Mr P Mitchell, submission no.15; Mr P Mitchell, Western Plains Landscape Guardians Association, ENRC public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.93–97; Macarthur-Hawkesdale Landscape Guardians, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, pp.191–202

\(^{576}\) Mr N Bean, Head of Generation Development, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.54

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that status of the development and what it was we are seeking to apply for. We advertised the open days locally and through radio interviews. We also did two letterbox drops just to make absolutely sure that everyone in the vicinity was aware of the application and of course provided contact details asking people to contact us if they had any comments, queries or general observations. Naturally, within our website we have an area dedicated to particular developments.\(^{577}\)

Mr Sweatman also explained the capacity to make changes to the design of a wind farm as a result of the community consultation process. He advised that to some extent it depends on the total size of the wind farm, for example with a 75-turbine wind farm site (approximately 150 MW), some of those turbines could be removed and the overall viability, from an economic perspective, maintained. However if changes were made reducing the tip points or hub heights or diameters, then it was more likely to make the project unviable. Mr Sweatman stated that:

> There is absolutely room for change as a result of feedback – and it is essential, especially somewhere like Victoria where there are no appeals. We cannot just say no and appeal it later. We know that if someone has a strong, scientifically based argument for making a change to the layout, then it is in our interests and the project's interests to go ahead, because ultimately it is in the community's interest that such a change is made. We certainly do not design a wind farm then notionally consent, go out and consult on it. It would not be a useful approach for us.\(^{578}\)

Industry has also been proactive in developing guidelines on community consultation and wind farm developments. In 2002 and 2006 AusWind (now Clean Energy Council) released the Best practice guidelines for implementation of wind energy projects in Australia. The guidelines contain information on communicating and consulting with stakeholders at each project stage. A certification system has also been developed 'in response to the need for sound environmental and social management in the wind energy industry'.\(^{579}\) Participants will be audited, allowing an independent assessment of their wind farm planning processes or operations against best practice, as defined by the Certified Wind Farms Australia specification and Clean Energy Council Best Practice Guidelines.\(^{580}\) Four companies have applied to participate in the scheme – Roaring 40s, Pacific Hydro, Wind Power Pty Ltd and Wind Prospect – and their certification status will be updated on attainment of certification following a process of independent audit.\(^{581}\)

### Concerns of proponents

Many of the concerns proponents expressed regarding community consultation relate to the planning panel process. For example 'excessive' submissions from stakeholders resulting in lengthy public hearings was identified by AGL Energy as a problem.\(^{582}\) As Mr Nigel Bean, Head of Generation Development, AGL Energy explained to the Committee at a public hearing: 'A lot of the issues which have been aired are essentially about aesthetics – some people like the look of wind farms, some do not. Whether you have one day of hearings or two weeks of hearings, you are

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577 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.146
578 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.150
582 AGL Energy, submission no.6, p.1
unlikely to bridge that gap'. Mr Ken McAlpine from Vestas Australian Wind Energy Technology advised that:

… quite often planning panels that are considering an application for a permit for a wind farm will keep dealing with the same questions that other panels have dealt with in the past.

It is quite odd if someone is seeking to build a 20-turbine wind farm somewhere out in regional Victoria that the panel considering the application will also consider submissions and debate on the economics of wind farms, for example, the impact on birds and every other argument against wind farms that are constantly thrown up. These are not local issues; these are issues that have been tested by panel after panel in the past, and there is research out there that the state government should and could be aware of. It could instruct panels on things such as the impact of wind farms on cutting greenhouse emissions from the energy market.

That stuff should have been decided long ago rather than being open to panels to re-litigate [sic] again and again, because every time you re-litigate an issue it is another day – or maybe four or five days – in a panel hearing… The government could play a role here by having its own process to determine its policy on these particular issues and than explaining it and setting further guidelines for panels as to what they can and cannot hear.584

The Committee has recommended in chapter 5 that Planning Panels Victoria document and publish the planning decisions that have been resolved and benchmarks set by panels on wind farm projects including bird and bat kills, shadow flicker, noise, electromagnetic interference, land values, the effectiveness of greenhouse gas abatement and landscape value impact. The Committee also believes that some planning issues have been resolved and further deliberation by planning panels is not warranted including greenhouse gas abatement and the efficiency of the technology.

Accordingly the Committee recommends that:

<table>
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<tr>
<th>RECOMMENDATION 6.3</th>
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<tr>
<td>The Policy and planning guidelines for development of wind energy facilities in Victoria identify issues that are exempt from consideration by Planning Panels including greenhouse gas abatement and the efficiency of the technology.</td>
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</table>

On a related matter, proponents also expressed dissatisfaction with the nature of submissions and objections received in relation to wind farms. WestWind Energy recommended that petitions, pro-forma and pro-forma like applications, objections with insufficient detail and irrelevant and unclear objections be rejected.585

WestWind Energy also expressed concern at what it described as ‘blanket public notice requirements’, for example three to five kilometres from a wind farm boundary. WestWind Energy would prefer a ‘logical and consistent assessment of landowners who may have the potential to suffer material detriment’. The Committee did not receive evidence on this matter from other proponents or witnesses and therefore has not made a recommendation on this issue.

583  Mr N Bean, Head of Generation Development, AGL Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.54
584  Mr K McAlpine, Government Relations Manager, Vestas Australian Wind Technology, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.48
585  WestWind Energy, submission no.30, p.5
Local councils and the wind farm consultation process

A number of councils advised the Committee of their reservations about wind farms, but also the benefits such projects bring to their region. Ararat Council made the observation that the planning approvals process is complex and that "For Joe Public – or the community – there is confusion about which aspect of this process they are engaging in". The Council described the tension between wind farm proponents desire for flexibility around project design and the community's need to understand where individual turbines are to be located to estimate potential impacts. The Council is not currently the responsible authority for a wind farm project, as Mr Clyde Humphries, Economic Development Manager explained: 'So our council is taking the attitude that if we are not the decision makers, we will be the facilitators. Part of that facilitation is to check out the possibilities with the proponents on sites, access and community involvement ...Council's role has been to help the proponents meet the public'.

The initial and ongoing economic benefits wind farm projects bring to a region were also discussed at public hearings. Mr Clyde Humphries stated that:

> With our facilitating we try to coordinate the integration of the public feeling and the business feeling and see where there are any economic benefits we can capitalise on. For Challicum Hills and other ones it runs from hundreds of thousands to millions of dollars. When Challicum was built one of our local motel operators had fully occupied rooms for nearly 18 months during the week, then on weekends they were able to rent those rooms out again. There are definite benefits. One of the operators said the workers who were on site became like family. It is not just the roads graders and concrete workers and what have you; there is that side benefit. They had to be fed, have their clothes cleaned and so on, so there is a multiplier effect going through our community with the economic benefits in that ...  

Ararat Rural City Council estimated that the annual economic benefit of the Challicum Hills wind farm for the area is approximately $500,000.

The economic impact of wind farm projects on the Shire of Corangamite community has been mixed. As Ms Sophie Segafredo, Manager Strategic Planning and Environment explained:

> Some of the issues related to it are a changed workforce and opportunities that are provided for the local communities. That has pros and cons. The workforce has become more unionised, which has not been the case in the local area. It also took away some of the skilled labour to those major projects where the opportunity to earn salaries of a much higher level was on offer, so other services were left somewhat in the lurch. Again, it is offering a good level of income for our local skilled labour.

> There is often the feeling, particularly during the construction time, that the new workforce takes over the small town and a feeling, I suppose, of somewhat squeezing out of their own places. I think that social implication is not really well understood at all during the assessment process

> [There is also] conflict with tourism businesses where, particularly on the coastal areas but in others, accommodation that would have serviced tourists is taken up for lengthy periods of time during the

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586 Mr E McColl, Planning and Building Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August, transcript of evidence, p.112
587 Mr C Humphries, Economic Development Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.114
588 Mr C Humphries, Economic Development Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.114
589 Mr C Humphries, Economic Development Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.124
Accommodating the workforce associated with the construction of wind farms and other major projects was also identified by Moyne Shire Council as the most pressing impact on the region.\textsuperscript{591}

The negative social impact of wind farms and other major projects, including the gas plant projects, in the Shire of Corangamite was also described to the Committee by Ms Segafredo:

One of the most significant [impacts] is the social impact these sorts of projects have on local communities, and the breakdown in those rural communities, pitting even family against family. It is not just within towns but is often in the rural landscape; there is a significant problem that arises, through these sorts of major projects which may not ever be healed. When you are looking at populations that need each other to operate in terms of the footy team and the whole community fabric, projects like this – and these are not the only things – have a significant impact on that social cohesion. I think it is accentuated with the linear nature of the wind farms in particular, but in our experience the gas plant projects have had a similar impact as well.\textsuperscript{592}

Ms Segafredo highlighted the need for understanding what the community's expectations are for the shire and the types of developments the community thinks are suitable.\textsuperscript{593} Ms Segafredo also advised that proponents seem to be quite reluctant to take on board localised issues. The Committee was interested to learn that the Shire of Corangamite in partnership with Warrnambool Council is planning to review its rural land policies. The Land Suitability and Decision Making Framework will provide guidance on the most appropriate and publicly supportable uses of land across the rural landscape.\textsuperscript{594} The Councils expect to receive feedback on the suitability of locations for wind farms through this mechanism.

A community led approach to identifying suitable sites for wind farms also occurs in Germany, according to NewEn Australia. This means that 'every community has determined their own dedicated areas especially for wind farming'.\textsuperscript{595} This approach is in contrast to the current approach in Victoria where proponents investigate and determine suitable sites, subject to planning approvals. The Committee believes that the proactive approach warrants investigation as it may potentially minimise the social dislocation that has been created by some wind farm projects and proposals in Victoria. The findings of such research could inform local and state wind farm planning approvals processes.

\begin{itemize}
\item \textsuperscript{590} Ms S Segafredo, Manager Strategic Planning and Environment, Shire of Corangamite, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, pp.165–166
\item \textsuperscript{591} Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.155
\item \textsuperscript{592} Ms S Segafredo, Manager Strategic Planning and Environment, Shire of Corangamite, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.165
\item \textsuperscript{593} Ms S Segafredo, Manager Strategic Planning and Environment, Shire of Corangamite, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.167
\item \textsuperscript{594} Shire of Corangamite, personal communication, 19 January 2010
\item \textsuperscript{595} NewEn Australia, submission no.17, p.4
\end{itemize}
Accordingly the Committee recommends that:

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<th>RECOMMENDATION 6.4</th>
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<tr>
<td>The Department of Primary Industries investigate proactive, community led approaches to identifying suitable sites for wind farms and the findings be incorporated as an addendum to the wind farm atlas.</td>
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Moyne Shire Council advised that ‘... it is very apparent that small, well-knit longstanding, local communities have a strong reluctance to object to what neighbours are doing, even if they are not happy. They are very reluctant to come to public meetings, et cetera. I do not blame them at all for that because they have to live there.'\textsuperscript{596} The Shire also highlighted the positive outcomes from establishing a community engagement committee framework. Three committees, one for the Mortlake power station, one for the Hawkesdale wind farm development and one for the Santos gas power station development have been established. The Committees meet once a month and produce a community newsletter. It has facilitated greater public access to and involvement in the construction process, for example, with large 130 metre trucks transporting equipment for the Mortlake power station project and concrete pours.\textsuperscript{597}

The framework is a formal mechanism where there is feedback between the proponent, community representatives that are on the committees and the elected councillors. As the Chief Executive Officer of the Council explained: ‘... some of the rumour-mongering is taken out of what is proposed and what will happen. It is an opportunity for free flow of information. It enables issues to be raised, rather than being swept under the carpet, and to be worked through with responses’\textsuperscript{598}

The Committee believes that the establishment of such a mechanism, with the assistance of grant funding from Regional Development Victoria, and the employment of a Major Projects Community Liaison Officer by the shire, adds to the effectiveness of the community consultation process. On the basis of the positive experience of Moyne Shire Council the Committee recommends that:

<table>
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<td>Regional Development Victoria fund local councils impacted by wind farm and renewable energy projects, to establish community engagement frameworks.</td>
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\textsuperscript{596} Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.161

\textsuperscript{597} Moyne Shire Council, personal communication, 25 November 2009

\textsuperscript{598} Mr B Stonestreet, Chief Executive Officer, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.153
Chapter 7: Aboriginal cultural heritage

Key findings

7.1 Victoria's *Aboriginal Heritage Act 2006* is relatively new legislation. The Committee received conflicting evidence as to its merits. A renewable energy proponent described the Act as 'inflexible' and a 'burden on renewable energy developments', while an Aboriginal party stated that the legislation is 'very good' because it provides 'certainty'.

7.2. Under the Aboriginal Heritage Act, Cultural Heritage Management Plans (CHMPs) are required to be developed in prescribed circumstances. As wind farms tend to be located in areas of high Aboriginal cultural heritage sensitivity, projects will often involve the preparation of CHMPs. Issues raised by proponents with the Committee primarily related to the CHMP framework and the requirement that a CHMP must be approved before a planning permit can be issued.

7.3. Proponents raised two key concerns about the current operation of CHMPs in evidence to the Committee:

- CHMPs are not sufficiently flexible to accommodate the ‘iterative’ planning process undertaken by the wind farm industry; and

- the CHMP process presumes that wind farm proponents have detailed plans of their project in place before initial planning approval is given. However, wind farm proponents often rely on the initial planning approval to secure the finance they need to create detailed plans for their project. Proponents therefore suggested to the Committee that the current process puts them in a ‘catch 22’ situation in trying to finance and plan their projects.

7.4 Aboriginal Affairs Victoria (AAV) has accrued experience from six approved wind farm CHMPs and approximately 16 more wind farm CHMPs are in progress. It would be beneficial for AAV to consult with the wind farm industry to review the particular issues that arise for wind farm developments in the application of the CHMP regime.

7.5 A number of proponents advocated altering the current process such that an approved CHMP would be required prior to construction, rather than as a precondition of the planning permit.
7.6 Integrating cultural heritage considerations into the initial stages of project planning is consistent with a best practice approach to the management of Indigenous cultural heritage. However, wind farm proponents generally do not have detailed and specific plans of their projects developed at the planning permit approval stage, making it difficult to develop a CHMP which addresses the likely cultural heritage impacts of wind farm works.

7.7 There could be benefit in adopting a two-tiered approach to cultural heritage management for the wind farm industry. Documented evidence of a general heritage assessment and consultation with Aboriginal parties with traditional or familial links to cultural heritage in the project area would be required prior to the issue of a planning permit, with an approved CHMP required prior to the issue of a construction consent. Such an approach would maintain heritage best practice through the early integration of heritage issues and Indigenous concerns into the planning process, while ensuring that detailed consultation and management planning occur when the particulars of the project are known.

7.8 The Committee received evidence that the process of completing a CHMP can be the activity of longest lead time when proponents are preparing and submitting a development application. AAV informed the Committee that the average time frame for preparation of CHMPs was eight months. Given that the processes of completing broader community consultation, as well as noise, visual impact and environmental assessments take a minimum of six to nine months, the Committee concluded that a time frame of eight months for the preparation of a CHMP is not excessive.

7.9 The Aboriginal Heritage Act 2006 was criticised by some proponents on the basis that it provides little guidance as to the relative significance of artefacts and that the impact of the CHMP process is that sites of ‘low scientific significance’ still need to be fully investigated. The Act recognises, appropriately, in the view of the Committee, that the significance of Aboriginal heritage cannot be pre-determined through objective criteria based on scientific research. A fundamental aspect of the CHMP process is to determine the significance of cultural heritage at a proposed project site.

From our community’s cultural perspective, and also spiritual perspective, with the wind turbines that were installed along Codrington, Yambuk, we never had an opportunity to be engaged with the installation of those turbines. But in our stories and our heritage and our beliefs, when we die as Guditjmarra people we then travel to Deen Maar, which is Lady Julia Percy Island. I know a lot of elders have spoken to me about their being upset that their songline after they have died might be affected by the wind turbines and getting chopped up…. If we had the opportunity to be engaged beforehand for that development no doubt those issues would have been raised and alternative management would have been put in place.\footnote{Mr Damien Bell, Chairperson, Gunditj Mirring Traditional Owners Aboriginal Corporation, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.181}
Introduction

The *Aboriginal Heritage Act (2006)* (AHA) is relatively new legislation, commencing operation in May 2007. The Committee received conflicting evidence as to its merits. Acciona Energy argued in its submission to the inquiry that the ‘inflexible nature’ of the AHA is ‘a burden on renewable energy developments’. 600 By contrast, Mr Damien Bell, the Chairperson of the Gunditj Mirring Traditional Owners Aboriginal Corporation gave evidence that:

> We have found the process [under the AHA] very prescribed, but that is good. It provides certainty, not only for us but for proponents and for government as well. 601

Under the AHA, Cultural Heritage Management Plans (CHMPs) are required for substantial infrastructure or resource development projects on areas of cultural heritage sensitivity, which have not previously been significantly disturbed. 602 The Committee understands that wind farm developments are likely to involve the preparation of CHMPs, as wind farms are often located in areas of high Aboriginal cultural heritage sensitivity. 603 Issues raised by proponents in evidence to the inquiry primarily related to the CHMP framework, and in particular the requirement that a CHMP be approved before a planning permit can be issued.604

This chapter explores proposals for reforms to the CHMP process made by members of the wind farm industry. Under the wind farm industry proposals, a CHMP would be required later in the process – prior to the commencement of construction, as opposed to the present situation in which cultural heritage management planning must be undertaken at the planning permit application stage.

The Committee concludes that a two-tiered process of managing Aboriginal cultural heritage should be adopted for the wind farm industry where a CHMP is required. The Committee recommends initial heritage assessment and consultation with Indigenous parties should be required in order for a planning permit to be granted. However, the requirement for an approved CHMP should be postponed until later in the process, so that it is only necessary before construction consent is issued, which would enable project works to commence.

This chapter investigates part (a) of the terms of reference for the inquiry by considering whether the AHA is a major obstacle to investors in large scale renewable energy projects in Victoria. It also presents the Committee’s findings in relation to part (c) of the terms of reference, making recommendations as to opportunities to reduce risk and delays for investors in relation to Aboriginal cultural heritage management processes. In addition, part (e) of the terms of reference are relevant to this chapter because it considers the implications of proposals made in a current federal review of

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600 Acciona Energy, submission no.33, p.4
601 Mr D Bell, Chairperson, Gunditj Mirring Traditional Owners Aboriginal Corporation, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.179
602 Aboriginal Affairs Victoria, *Information Sheet: Cultural Heritage Management Plans and Planning*, p.1. Further information about the circumstances in which a CHMP is required is provided below
604 See *Cultural Heritage Management Plan as a Condition of Planning Approval* below
Aboriginal heritage legislation, and the findings of the 1996 Evatt Review of Commonwealth heritage arrangements.

Overview of the Aboriginal Heritage Act and related legislation

The purpose of the Aboriginal Heritage Act 2006 is ‘to provide for the protection of Aboriginal cultural heritage in Victoria’. Features of the AHA that are relevant to this inquiry include:

- The establishment of a Victorian Heritage Council of 11 Victorian traditional owners to advise the Minister on issues relating to the management of cultural heritage;
- The introduction of a regionalised system of Indigenous representation in the form of Registered Aboriginal Parties (RAPs) that are involved in the cultural heritage decision making process;
- Establishment of Cultural Heritage Management Plans to manage activities that might impact on Aboriginal cultural heritage;
- Enforcement provisions including protection declarations, powers for inspection and fees and penalties; and
- A process of dispute resolution which includes the review of certain decisions through the Victorian Civil and Administrative Tribunal (VCAT).

The Aboriginal Heritage Regulations 2007 give effect to the AHA. They set out the circumstances in which a Cultural Heritage Management Plan is required to be prepared and the standards for its preparation.

The Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984 enables the federal Government to respond to requests to protect Indigenous areas and objects if it appears that State or territory laws have not provided ‘effective protection’. However, in August 2009, the Department of the Environment, Water, Heritage and the Arts (DEWHA) announced a review of the Commonwealth Act, releasing a discussion paper entitled Indigenous Heritage Law Reform: Possible Reforms to the Legislative Arrangements for Protecting Traditional Areas and Objects. The discussion paper proposes the implementation of a system in which the Commonwealth Minister would accredit State and Territory heritage regimes if their laws met a set of ‘best practice’
standards, such that the Federal Government would no longer be able to override an accredited State or Territory heritage decision.\textsuperscript{610}

Aboriginal Affairs Victoria (AAV) is the Victorian Government’s key agency for advice on Aboriginal affairs. It administers the Aboriginal Heritage Act and is part of the Department of Planning and Community Development (DPCD).

Cultural Heritage Management Plans

Under the \textit{Aboriginal Heritage} Act 2006, a proponent may be required to prepare a Cultural Heritage Management Plan (CHMP).\textsuperscript{611} Aboriginal Affairs Victoria describes the CHMP process as follows:

\begin{quote}
Preparation of a Cultural Heritage Management Plan involves a cultural heritage adviser (an archaeologist or other heritage specialist) working with Aboriginal community representatives to identify and assess cultural heritage values in relation to a proposed development or activity.

A Cultural Heritage Management Plan assesses whether a project will have any impact on Aboriginal cultural values and, as appropriate, outlines management recommendations.

A Cultural Heritage Management Plan is a written report containing the results of the assessment and recommendations for measures to be taken before, during and after an activity to manage and protect Aboriginal cultural heritage in the area.

Preparation of a Plan is commissioned and paid for by the project proponent.\textsuperscript{612}
\end{quote}

Circumstances that will trigger the need for a CHMP are outlined in the AHA. In general terms, a CHMP will be required for substantial infrastructure or resource development projects on areas of cultural heritage sensitivity\textsuperscript{613} which have not previously been significantly disturbed; or where there is a requirement for an Environment Effects Statement.\textsuperscript{614}

The onus is on the proponent to identify the need for the preparation of a CHMP.\textsuperscript{615} Before the preparation commences, the proponent must provide a notice of an intention to prepare a CHMP to the relevant registered Aboriginal Party (RAP) or RAPs, the Secretary of DPCD and the owner or

\textsuperscript{610} Department of Environment, Water, Heritage and the Arts, \textit{Indigenous Heritage Law Reform: Possible Reforms to the Legislative Arrangements for Protecting Traditional Areas and Objects}, Canberra, August 2009, pp.7,15
\textsuperscript{611} If a CHMP is not required, a Cultural Heritage Permit may be required: Aboriginal Affairs Victoria, \textit{Information Sheet: Cultural Heritage Permits}, p.1
\textsuperscript{612} Aboriginal Affairs Victoria, \textit{Information Sheet: Cultural Heritage Management Plans and Planning}, p.1
\textsuperscript{613} Areas of high cultural sensitivity are specified in the Aboriginal Heritage Regulations. They include registered cultural heritage places, waterways, ancient lakes, declared Ramsar wetlands, coastal land, coastal Crown land, the high plains, Koo Wee Rup Plain, greenstone outcrops, stony rises, the volcanic cones of Western Victoria, caves, lunettes, dunes and sand sheets and land within specified distances of these areas of cultural heritage sensitivity. Department of Planning and Community Development, \textit{The Aboriginal Heritage Act 2006 and the Planning Permit Process General Practice Note}, July 2007 (Revised October 2007), p.3. Aboriginal Affairs Victoria has mapped these areas of cultural sensitivity
\textsuperscript{614} Aboriginal Affairs Victoria, \textit{Information Sheet: Cultural Heritage Management Plans and Planning}, p.1
\textsuperscript{615} Department of Planning and Community Development, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, presentation: \textit{Aboriginal Heritage and Renewable Energy Projects in Victoria}, p.1
occupier of any land within the area covered by the management plan. RAPs are discussed in the next section.

A CHMP will normally consist of a written report detailing findings of an assessment and recommendations based on that assessment. The assessment of the project area may include background research, consultation, field survey and excavation. CHMPs must focus on minimising harm to, or managing any unavoidable impacts on, Aboriginal heritage.

If a CHMP is required, other statutory authorisations, including a planning permit, cannot be issued before the CHMP has been approved. A proponent can lodge an application and notifications of the application can be made, but the ‘clock’ does not start for a decision maker on a planning permit until a copy of an approved CHMP has been lodged. Finally, if an approved CHMP is required but has not been included with an application, authorities must refer the application back to the proponent for the preparation of a CHMP.

While it general terms, the AHA makes it an offence for a person to knowingly, recklessly or negligently harm Aboriginal cultural heritage, acts harming Aboriginal cultural heritage are permitted if they are done in accordance with a CHMP.

According to AAV, 24 wind energy facilities had required CHMPs by 10 August 2009. Six CHMPs for wind farms had been approved in August 2009, two were under evaluation and 16 were in preparation. AAV informed the Committee that wind farms are common in areas of high cultural heritage sensitivity, including undisturbed land close to the coast and waterways.

The CHMP process is outlined in figure 7.1

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616 Aboriginal Affairs Victoria, Guide to Preparing Aboriginal Cultural Heritage Management Plans, 12 November 2008, p.4
617 Department of Planning and Community Development, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, presentation: Aboriginal Heritage and Renewable Energy Projects in Victoria, p.2 – referring to s.61 of the Aboriginal Heritage Act
618 These statutory authorisations include a permit under the Planning and Environment Act 1987 to use or develop land for all or part of an activity and an approval under any Act or regulations to develop land for all or part of an activity: s.50 AHA
619 Aboriginal Affairs Victoria, Information Sheet: Cultural Heritage Management Plans and Planning, p.2
620 Section 27 of the Aboriginal Heritage Act (2006)
621 Section 29 of the Aboriginal Heritage Act (2006)
622 Department of Planning and Community Development, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, presentation: Aboriginal Heritage and Renewable Energy Projects in Victoria, p.4
### Cultural Heritage Management Plan Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>An applicant proposes an activity that requires a planning permit (e.g., a large subdivision in a coastal area) and applies to the responsible authority for a planning permit.</td>
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<tr>
<td>2</td>
<td>If the applicant has not provided an approved Cultural Heritage Management Plan (and one is required), the responsible authority notifies the applicant that a Cultural Heritage Management Plan is required under section 52 of the <em>Aboriginal Heritage Act 2006</em> (with reference to the ‘triggers’ as outlined in the regulations).</td>
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<tr>
<td>3</td>
<td>The applicant advises the relevant registered Aboriginal Party or parties for the area, and engages a cultural heritage adviser. The responsible authority is not required to be involved in this process.</td>
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<td>4</td>
<td>A Cultural Heritage Management Plan is prepared by the applicant, with the assistance of a cultural heritage adviser. Registered Aboriginal Parties may participate in this process.</td>
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<tr>
<td>5</td>
<td>The Registered Aboriginal Parties endorse or reject the Cultural Heritage Management Plan. (Rejection may be appealed to VCAT.)</td>
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<tr>
<td>6</td>
<td>The applicant submits the approved Cultural Heritage Management Plan to the responsible authority.</td>
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<tr>
<td>7</td>
<td>The responsible authority can then decide the planning permit application. The statutory time limit for assessing the planning permit application does not commence until the approved Cultural Heritage Management Plan has been received. The responsible authority must not grant a planning permit if the proposed development is inconsistent with the approved Cultural Heritage Management Plan. (Section 52 (3) of the <em>Aboriginal Heritage Act 2006</em>).</td>
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</table>

Source: Department of Planning and Community Development, *The Aboriginal Heritage Act 2006 and the Planning Permit Process General Practice Note, July 2007 (Revised October 2007)*, p.2

### Registered Aboriginal Party

Once a CHMP has been completed by a proponent, it must be approved by the registered Aboriginal Party (RAP) for the area, if one exists. A RAP is an Aboriginal body corporate that has been registered by the Aboriginal Heritage Council for a particular geographical area, under the Aboriginal Heritage Act. If there is no RAP, the Secretary of the Department of Planning and Community Development assesses the CHMP. Following approval, the CHMP will then be lodged with the Secretary of the DPCD. The CHMP will become effective after lodgement with the DPCD.

Aboriginal people are recognised in the AHA as ‘the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage.’ The role of a RAP includes:

- Acting as the primary source of advice and knowledge for the Minister for Aboriginal Affairs, Secretary to the Department of Planning and Community Development and the Victorian Heritage Council on matters relating to Aboriginal places in, or objects originating from, the area for which the RAP is required.
- Evaluating and approving or refusing to approve CHMPs that relate to the area for which the RAP is registered.
- Applying for interim and ongoing declarations to protect cultural heritage.\(^{623}\)

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\(^{623}\) *Aboriginal Affairs Victoria, Becoming a Registered Aboriginal Party, Information Sheet 1*, p.1
If a CHMP is required, the obligations of the RAP include considering a notification of intention to prepare a CHMP, advising in writing whether or not the RAP intends to evaluate the CHMP, and using ‘reasonable efforts’ to cooperate with the proponent in the preparation of the CHMP. If the RAP intends to evaluate the CHMP, it may also consult with the proponent on the cultural heritage assessment and recommendations to be included in the CHMP and participate in the conduct of the assessment. When a RAP gives notice of its intention to evaluate a CHMP, the proponent must make reasonable efforts to consult with the RAP before beginning the assessment and during the preparation of the management plan.

If a RAP decides to evaluate a CHMP, it has 30 days to review the CHMP and to notify the developer of its decision. A fee is charged by the RAP responsible for evaluating the CHMP.

A RAP must consider the following matters when evaluating a CHMP:

- whether the activity will be conducted in a way that avoids harm to Aboriginal cultural heritage;
- if it does not appear to be possible to conduct the activity in a way that avoids harm to Aboriginal cultural heritage, whether the activity will be conducted in a way that minimises harm to Aboriginal cultural heritage;
- any specific measures required for the management of Aboriginal cultural heritage likely to be affected by the activity, both during and after the activity;
- any contingency plans required in relation to disputes, delays and other obstacles that may affect the conduct of the activity; and
- requirements relating to the custody and management of Aboriginal cultural heritage during the course of the activity.

A RAP’s powers to reject the CHMP are limited to situations where the RAP is not satisfied that the CHMP adequately addresses the matters set out above. As noted previously, an approved CHMP can function as a permission to harm Aboriginal cultural heritage. While a RAP may wish to refuse to endorse a CHMP on the basis that the cultural heritage that may be harmed is so significant that the activity should not proceed at all, the AHA’s list of criteria that RAPs must use in evaluating a CHMP does not allow for this possibility. By contrast, under the heritage regime in place in Victoria prior to the AHA, local Aboriginal communities had discretionary power in relation to the granting or refusing of consent to acts which interfered with Aboriginal objects or places, with no appeal mechanism in place.
Inspectors appointed under the AHA work with AAV and the relevant RAP to monitor compliance with conditions and recommendations contained in approved CHMPs.633

Significance of sites

Acciona Energy criticised the AHA on the basis that it provides little guidance as to the relative significance of artefacts so that ‘minor identifications’ are able to influence a project as much as ‘large scale sites of significance.’634 Renewable Energy Systems Australia voiced similar objections to the current process arguing that the impact of the CHMP process is that ‘sites of low scientific significance still need to be fully investigated’.635

The AHA defines ‘cultural heritage significance’ as including ‘archaeological, anthropological, contemporary, historical, scientific, social or spiritual significance; and significance in accordance with Aboriginal tradition’.636 The Act recognises, appropriately, in the view of the Committee, that the significance of Aboriginal heritage cannot be pre-determined through objective criteria based on scientific research. There is ‘no simple recipe’ for assessing cultural significance; it is, and always should be, a well considered assessment of the complexities of what makes a place of value to society.’637 The Evatt Report supports such a view in finding that:

The question of whether an area or site should be considered an area or site of particular significance according to Aboriginal tradition should be regarded as a subjective issue to be determined on the basis of an assessment of the degree of intensity of belief and feeling of Aboriginal people around that area or site and its significance.638

The importance of Aboriginal heritage is determined by its relationship with communities of interest and will change over time. According to archaeologists, Heather Burke and Claire Smith, ‘if we accept that cultural significance is not an inherent quality of a place, but a social outcome resulting from people’s interactions with a place, then the community itself must be the most important source of significance.’639 The importance of cultural heritage may be determined by spiritual, traditional, cultural and historical, rather than purely scientific factors.640

The Committee concluded that through their engagement with the Victorian planning process, renewable energy proponents should be accustomed to accommodating local and community concerns and recognising that the impacts of their project cannot always be reckoned in objective or universal terms. For instance, an assessment of ‘visual amenity’ is inherently subjective and cannot be pre-determined through scientific criteria.

632 Department of Planning and Community Development, The Aboriginal Heritage Act 2006 and the Planning Permit Process General Practice Note, July 2007 (Revised October 2007), p.4
633 Acciona Energy, submission no.33, p.4
634 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.147
635 Section 4(1) of the Aboriginal Heritage Act (2006)
636 Ms H Burke and Ms C Smith, The Archaeologist’s Field Handbook, p.245
637 Ms H Burke and Ms C Smith, The Archaeologist’s Field Handbook, p.245
639 Ms H Burke and Ms C Smith, The Archaeologist’s Field Handbook, p.257
640 Ms H Burke and Ms C Smith, The Archaeologist’s Field Handbook, p.257
Further, the Committee noted that prior to the introduction of the AHA, there were no standards for the management of Aboriginal heritage and the preparation of assessments. 641 Indeed, a fundamental aspect of the CHMP process is to determine the significance of cultural heritage on the area of a proposed project. The Guide to Preparing Cultural Heritage Management Plans states that:

A statement of the significance of the Aboriginal cultural heritage found, discovered and/or subject to investigation in terms of this definition of ‘cultural heritage significance’ is an essential step in the process of developing cultural heritage management recommendations. All Aboriginal cultural heritage may have ‘cultural heritage significance’ but the preservation of all Aboriginal cultural heritage is not possible. Therefore, a process of assessing significance is necessary to determine which elements of the Aboriginal cultural heritage in an area requirement management. In this context, ‘management’ is not synonymous with ‘preservation’, but may involve salvage or controlled destruction.642

A CHMP should therefore incorporate an assessment of the significance of cultural heritage located in the project area. The Committee has concluded that the CHMP process is the appropriate mechanism for the assessment of cultural heritage significance.

Cultural heritage management plans

Cultural heritage management plans as a condition of planning approval

A key issue articulated by renewable energy proponents to the inquiry was the requirement under the AHA that planning authorities could not make a decision on certain planning applications until an approved CHMP had been completed.

Proponents raised three issues about the current operation of CHMPs in evidence to the Committee:

- that they felt compelled to do heritage surveys across their entire development envelope, even though ground disturbing work was limited to a small portion of the total project area;
- that CHMPs are required at a time when detailed project plans have not yet been produced; and
- CHMPs are too rigid to accommodate the ‘iterative’ planning process of wind farm developers, in which designs are continually revised to respond to changing project parameters.

641 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.101
642 Aboriginal Affairs Victoria, Guide to Preparing Aboriginal Cultural Heritage Management Plans, 12 November 2008, pp.18–19
Relatively small geographical ‘footprint’ of wind farm developments

Wind farms differ from other projects that commonly attract the requirement to undertake a CHMP in that they take up a relatively small proportion of the total envelope in which their development occurs. By contrast, a housing development takes up almost the entire project area.643 As NewEn explained in its submission to the inquiry:

Wind farms, in particular, use a very small footprint of the geology. Although they can be spread over a wider area, the actual ground disturbance is relatively small, say 25 x 25 at the base of the wind towers plus access tracks to the towers, many of which would be improved existing tracks around the farms anyway. Despite this relatively small re-dedication of existing farm land, a number of detailed and wide ranging environmental and archaeological studies have to be performed for the planning and development approvals. The wind farm developer has to prove to the regulating authority that there are no issues on the entirety of the land.644

Similarly, Mr Chris Sweatman, the Chief Operating Officer of Renewable Energy Systems Australia, advised that ‘the whole area rather than just where you are disturbing the ground needs to be investigated’ as part of the CHMP process.645 The Committee agrees that undertaking a CHMP process – involving an exhaustive and highly detailed assessment of Aboriginal heritage as well as comprehensive management recommendations – is likely to be an inefficient use of resources if it is applied uniformly across the entire wind farm development envelope without regard to where ground disturbing work is likely to occur. However, as discussed later in this chapter, the Committee believes that Aboriginal heritage considerations should be integrated into the early planning stages of a project, by conducting an initial heritage survey of the project area.

Lack of fit between wind farm design practices and CHMP requirements

The CHMP process presumes that wind farm proponents will have detailed plans of their project in place before initial planning approval is given. However, wind farm proponents often rely on the initial planning approval to secure the finance they need to create detailed plans for their project. Proponents therefore suggested to the Committee that the current process puts them in a ‘catch 22’ situation in trying to finance and plan their projects.646

Pacific Hydro submitted that ‘stringent requirements and high standards for the preparation of a Cultural Heritage Management Plan (CHMP) presuppose that detailed design work has already been completed by the proponent in order for the CHMP to be assessed and approved.’647 In providing evidence to the Committee, Mr Terry Teoh, Executive Manager of Development at Pacific Hydro, said:

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643 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.101
644 NewEn, submission no.17, p.3
645 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.147
646 Pacific Hydro, submission no.29, p.10
647 Pacific Hydro, submission no.29, p.10
With cultural heritage basically there is not an alignment between how you develop a wind farm and where the assessment of cultural risk takes place. We are not saying contract out the cultural risk; we are saying do it at the right point when the project is known. For example, right now when we do a conceptual design of a wind farm for planning approval we are obliged to guess what the ultimate design will be, do our cultural heritage assessment, get the primary permit and then do all that cultural heritage all over again in order to get the secondary permit.\textsuperscript{648}

Similarly, Origin Energy submitted that, ‘the requirement in Victoria to submit an approved Cultural Heritage Management Plan prior to submitting a planning application (irrespective of whether approval is granted or not) is not only onerous and costly, it is also required during the development phase, ie in the lead-up to construction’.\textsuperscript{649}

Flexibility of CHMPs

The final concern was that CHMPs do not accommodate the wind farm industry’s ‘iterative’ design process, in which wind farm designs are continually revised to accommodate a range of factors, such as the type of turbines to be used and the outcomes of other approvals processes.\textsuperscript{650} Wind farm proponents, including Acciona Energy, argued that the CHMP process was so inflexible that they were not able to make minor alterations to project designs after having submitted their initial planning applications.\textsuperscript{651}

However, Mr Ian Hamm, the Executive Director of AAV stated in evidence to the Committee that a CHMP should be able to accommodate an iterative planning process and allow for minor alterations to the project design:

\begin{quote}
The CHMP should give you a good overview of what exists in the envelope that you want to do works in. Now, with a lot of wind farms you get … say, 100 square acres or something, of which you might only use 10 per cent, but the information provided in the Aboriginal heritage management plan will tell you over that 100 acres where Aboriginal heritage exists, and that should inform you where you want to put your 10 per cent land use – where you put your turbines and infrastructure and that kind of thing. It does mean that a good plan in this instance will have a lot of contingencies in it to account for that movement in the final design … A good heritage adviser for a wind farm will say, ‘Here’s where Aboriginal heritage is. If you are going to go into these areas, you need to be aware what exists here. If you are going to go into these areas, this is what you will need to do should you choose to design there.

There are different types of plans. There is no sort of standard approach, but the future use of the land will dictate what contingencies you should have and … one like this, which does not have its final siting of things determined at the time the plans are approved, should have lots of contingencies in it that allow for the moving of things as you get close to your final outcome of where you are going to put wind turbines and other infrastructure.\textsuperscript{652}
\end{quote}

\textsuperscript{648} Mr T Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, pp.16–17
\textsuperscript{649} Origin Energy, submission no.10, p.3
\textsuperscript{650} Pacific Hydro, submission no.29, p.7
\textsuperscript{651} Acciona Energy, submission no.33, p.4
\textsuperscript{652} Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.102–103
Mr Ian Lawrie, Planning Manager at Acciona Energy was present for Mr Hamm’s evidence to the Committee and responded as follows:

I am encouraged by some of the things I heard from Aboriginal Affairs. Our experience had been a little bit more, that there was less flexibility in how you could get a cultural heritage management plan approved, and I am encouraged that it is possible to have a bit more flexibility inherent in your cultural heritage management plan and it will still essentially be approved on that basis. That has not been our experience, but I am encouraged that that could be the case.653

CHMPs are required to incorporate contingency planning in relation to Aboriginal cultural heritage not previously identified and other matters which may affect the conduct of works such as disputes and delays.654 In addition, cultural heritage advisers have a number of other strategies available in order to manage the risk that heritage will be disturbed after an initial heritage assessment has been completed.655

The Committee has concluded that the current CHMP framework has some capacity to accommodate the wind farm industry’s ‘iterative’ design practices. Through a combination of appropriate survey methodologies, contingency planning and risk management strategies, the Committee believes that CHMPs can accommodate minor changes in wind farm designs. However, as discussed below, the Committee has also concluded that reforming the CHMP process to create a two-tiered system of assessment and management could have benefits in terms of greater flexibility and certainty for all stakeholders.

Nevertheless, the evidence reproduced above indicates that the wind farm industry may not be aware of the potential for the CHMP framework to accommodate small alterations in their initial designs. Further, while the submissions of some representatives of the wind farm industry suggested that under the current regime, their initial heritage assessment was not sufficiently expansive to accommodate future plans,656 the comments of others indicated that their first heritage assessment was more exhaustive than it needed to be, covering an area greater than their actual project works.657

Mr Hamm from AAV informed the Committee, that the cultural heritage industry ‘under the new Act, is only two years old so there is still a lot of progression and learning ... going on’.658 Similarly, Mr Neil Martin, Projects Manager at Framlingham Aboriginal Trust, gave evidence to the Committee that ‘the Act has not been in place for three years and much of the knowledge and understanding not only in industry but also in Aboriginal communities working their way through the Act is only quite

653 Dr I Lawrie, Manager, Planning, Acciona Energy, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.109
654 Aboriginal Affairs Victoria, Guide to Preparing Aboriginal Cultural Heritage Management Plans, 12 November 2008, p.21. Such planning may include the proponent entering into protocols with the RAP to notify the RAP of any heritage discovery within a defined period of time or ceasing or restricting work by the proponent on or near the identified cultural heritage.
655 Ms H Burke and Ms C Smith, The Archaeologist’s Field Handbook, p.257
656 Acciona Energy, submission no.33, p.4; Mr Terry Teoh, Executive Manager Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, pp.16–17
657 Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.147; NewEn, submission no.17, p.3
658 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.104
new and young’. The Committee noted that AAV has made efforts to ensure that accessible information is available in order to explain the operation of a relatively new and complex piece of legislation and to be transparent as to the information required and standards applied under the AHA. AAV’s website provides access to a range of information sheets on CHMPs and RAPs, as well as a guide to the preparation of CHMPs and the standards used to evaluate CHMPs. However, when asked by the Committee to identify specific areas of improvement in relation to the Aboriginal cultural heritage process, Mr Hamm referred to ‘simple communication with stakeholders, to improve the way we provide specific information’ …

In evidence to the Committee, Mr Hamm from AAV commented that ‘I am very much in favour of finding a better planning process for wind farms.’ Aboriginal Affairs Victoria has accrued experience from six approved wind farm CHMPs and approximately 16 more wind farm CHMPs are in progress. It would be beneficial for AAV to consult with the wind farm industry to review the particular issues that arise for wind farm developments in the application of the CHMP regime. Accordingly the Committee recommends that:

**RECOMMENDATION 7.1**

Aboriginal Affairs Victoria consult with the wind farm industry to foster a better understanding of the development and the implementation of Cultural Heritage Management Plans in the context of wind farms.

**Proposals for reforming the current CHMP process**

A number of proponents advocated altering the current process so that the CHMP is performed after an initial planning permit has been granted. Pacific Hydro proposed an ‘easy option’ for altering the process, involving the following steps:

- amending the Planning and Environment Act to formally recognise the Construction Consent stage of planning permits for specified classes of projects; and
- amending the AHA so that CHMPs must be approved prior to the issuing of a ‘Construction Consent’ rather than planning approval.

According to Pacific Hydro, ‘this action would enable the initial planning permit to be issued for the use and development of land, in turn facilitating the detailed design and bringing the assessment of the CHMP into a parallel process with all other regulated objectives and management plans needed for a well designed wind energy facility to be approved for construction’.

The Committee understands that similar issues have arisen in relation to the resources industry. Initial licences are issued over large areas of land and the actual area in which works will be undertaken is unknown when works plans are issued. As a consequence, the Mineral Resources

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659 Mr N Martin, Projects Manager, Framlingham Aboriginal Trust, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September 2009, transcript of evidence, p.173
660 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.103
661 Pacific Hydro, submission no.29, p.11
Chapter 7: Aboriginal cultural heritage

(Sustainable Development) Act 2006 has been amended so that an approved CHMP is no longer necessary for a works plan to be issued. Instead, an approved CHMP will be required when the proponent prepares a more detailed work schedule that outlines the actual impacts of their development on their project area.662

The Committee noted that integrating Aboriginal cultural heritage considerations into the initial stages of project planning is consistent with a best practice approach to protecting Indigenous heritage. The 1996 Evatt Report into the Aboriginal and Torres Strait Islander Protection Act 1984 (Cth) found that ‘minimum standards for state and territory planning and development processes should include ... integration of Aboriginal cultural heritage issues with the planning and development process from the earliest stage’.663 As part of its proposal to provide Commonwealth accreditation to State heritage legislation, the Department of Environment, Water, Heritage and the Arts (DEWHA) has anticipated standards that require the ‘early identification of Indigenous issues’ because the ‘earlier heritage issues are identified, the easier it is to find ways to protect heritage through careful planning’.664 Elsewhere in its proposal, DEWHA refers to ‘last minute’ applications for protection as allowing the ‘least room to resolve disputes’, whereas earlier intervention makes it ‘easier for people to negotiate fairly and to agree on how to protect heritage’.665 An approach that relies on pre-emptive identification of heritage sites also assists companies to appropriately manage heritage risks associated with their project.

According to the Gunditj Mirring Traditional Owners Corporation, the RAP for the Gunditjmara native title determination area in the south west of Victoria, the justification for making planning permission conditional on an approved CHMP is that it provides proponents with an incentive to do the planning necessary to ensure that Aboriginal heritage is protected. In evidence to the Committee, Mr Damien Bell, Chairperson of the Gunditj Mirring Traditional Owners Corporation, said:

If you get that work done at the start of it, you will not have any surprises down the track, and within that cultural heritage management process you are also building in contingencies for if something unforeseen happens ... It needs to be done up-front.... Before with the Commonwealth Act we had to rattle the old native title sabre before we could get any engagement for a cultural heritage management plan. This way around it is much better because all parties involved know what has to be done.666

Mr Ian Hamm of AAV said that it is ‘critically important’ that Aboriginal heritage is ‘adequately dealt with up front’. He explained that:

662  Aboriginal Affairs Victoria, personal communication, 9 February 2010
664  Department of Environment, Water, Heritage and the Arts, Indigenous Heritage Law Reform: Possible Reforms to the Legislative Arrangements for Protecting Traditional Areas and Objects, Canberra, August 2009, p.15
665  Department of Environment, Water, Heritage and the Arts, Indigenous Heritage Law Reform: Possible Reforms to the Legislative Arrangements for Protecting Traditional Areas and Objects, Canberra, August 2009, p.17
666  Mr D Bell, Chairperson, Gunditj Mirring Traditional Owners Aboriginal Corporation, Environment and Natural Resources Committee public hearing – Port Fairy 7 September 2009, transcript of evidence, p.180
Under the previous arrangement what would happen is that Aboriginal heritage would be dealt with when it was discovered. That was usually after works had commenced ... You suddenly have to stop and then you have got Aboriginal heritage you have to deal with in an indeterminable way with no clear process, which would be negotiated with individual Aboriginal parties and could lead to quite lengthy and costly delays. Under the new arrangements Aboriginal heritage is discovered and ways of managing it are set out before works commence. A person can look at their works area or the area they want to do works on and decide ‘We will build here’ or ‘We will not build here’.667

The Committee is concerned that the reforms proposed by Pacific Hydro, in which there is no requirement to undertake heritage planning upfront, could result in situations where Aboriginal cultural heritage is not taken into account until the plans for a project have been finalised, and all other permits received, such that it would be financially prohibitive and administratively onerous for the project to be revised in order to avoid sites of heritage significance. The result could be increases in both project delays and the destruction of cultural heritage. Indeed, when the AHA was implemented, one commentator referred to a 2005 dispute concerning a Portland development in which local Aboriginal community objections had halted activity. According to the commentator, a similar situation would be unlikely to occur with the new legislation, with its requirement for an assessment in the very first phase of applying for approvals for major works.668

In addition, the reforms proposed by Pacific Hydro could also result in a diminution in the power and participation of Aboriginal parties in the heritage management process. Rather than being informed as to the heritage assessments of proponents and involved in heritage management in the early stages of the project, final heritage decisions involving RAPs would be relegated to later in the development process and considered at a point where it may be far more difficult to minimise harm to heritage. The Committee noted that such a situation could be inconsistent with the AHA’s objective of according Aboriginal people appropriate status in protecting their heritage.669

Detailed wind farm designs are generally only developed after a planning permit has been granted and therefore at the time when a CHMP is produced, there may be little clarity for proponents or Indigenous parties as to what the likely dimensions of the project – and therefore its impacts on heritage – will be. The Committee is concerned that proponents and RAPs are therefore obliged to develop recommendations as to the management of project impacts on Aboriginal cultural heritage in the absence of any specific information as to what the project would entail.

However, according to the evidence received from proponents including Pacific Hydro and Origin Energy, the consequence of the current CHMP structure is that proponents are effectively required to produce two CHMPs: one at the planning permit stage and another one later in the process, prior to construction.670 Nevertheless, the Committee noted the ‘ iterative’ design processes of the wind farm developers will often mean that several heritage assessments will be required for one project. Because wind farm proponents continually rework their designs, multiple heritage assessments are likely to be necessary because the planned location of project works – and therefore heritage impacts – will change as the project develops.

667  Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.99
669  Section 3 of the Aboriginal Heritage Act 2006
670  Origin Energy, submission no.10, p.3
The Committee has concluded that the CHMP framework should be amended to formally recognise
the two-tiered approach to cultural heritage management that is currently occurring in practice. An
initial heritage assessment and consultation with Indigenous parties should be required in order for a
planning permit to be granted. In addition, the issuing of an approval to commence construction
should be conditional on an approved CHMP. Thus, a heritage survey and consultation with
Aboriginal parties who have traditional or family links to cultural heritage in the area would be
required at the commencement of the planning process in order to identify zones in which
development could and could not occur. More detailed assessments, the formulation of
recommendations and contingency plans would occur prior to construction when detailed project
plans were available. This approach draws on a recommendation made by Acciona Energy:

_The objectives of the Aboriginal Heritage Act could be equally as well satisfied by having that
requirement shifted to an approved CHMP prior to the commencement of construction. During the
planning application itself you are required to put forward a fairly detailed risk analysis according to
cultural heritage which shows you have considered these issues, but the final stamp of an approved
CHMP would take place once you have actually completely locked in and finalised the design, shortly
before construction._

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The Committee believes that adopting a two-tiered approach to cultural heritage approvals would
provide wind farm proponents with additional design flexibility and all parties with more certainty
about the detail of project proposals, while maintaining the rigour of the current process. Such an
approach would maintain heritage best practice through the early integration of heritage issues and
Indigenous concerns into the planning process, while ensuring that detailed consultation and
management planning occur when the dimensions of the project are known. Accordingly, the
Committee recommends that:

**RECOMMENDATION 7.2**

The _Planning and Environment Act (1987)_ and _Aboriginal Heritage Act (2006)_ should be
amended such that, if a Cultural Heritage Management Plan is required for a wind farm project:

(a) Documented evidence of a heritage assessment by a Cultural Heritage Adviser and
consultation with Registered Aboriginal Parties or Indigenous parties who have traditional or
familial links to Aboriginal cultural heritage in the relevant area would be required as a
condition of a planning permit application for a wind farm development; and

(b) The Cultural Heritage Management Plan would need to be approved prior to the
commencement of construction.

671 Dr Ian Lawrie, Manager, Planning, Acciona Energy, Environment and Natural Resources Committee public hearing
– Melbourne, 10 August 2009, transcript of evidence, p.107
Time frames

According to one participant in the inquiry, the process of completing a CHMP generally takes around 12 months and ‘can be the activity of longest lead time when preparing and submitting a development application’. By contrast, evidence provided by AAV to the Committee was that the average time for preparation of a CHMP was between four to six months, although the average time frame for wind farm CHMP was eight months. In evidence to the inquiry, Mr Ian Hamm from AAV stated that:

> It depends on the size of the works you are doing; it depends on the competency of the cultural heritage adviser you have; it depends on the price you are willing to pay in dollar terms. You get what you pay for a lot of the time. …

The Committee understands applications for planning permits by the wind farm industry are generally characterised by a long lead time. The community consultation and studies required for a planning permit application generally take a minimum of six to nine months to complete. Mr Nigel Bean, Head of Generation Development at AGL Energy explained that:

> — we need at least a year’s wind data before we can make an investment commitment. … We go through this process, so it might take us typically six to nine months to actually prepare an application, as a very minimum.

Similarly, Ararat Rural City Council informed the Committee that they had been ‘talking to [Renewable Energy Systems Australia], the firm we are dealing with at the moment on the Ararat wind farm, for two years now, and they are only just getting up to the planning permit stage’.

The Committee has concluded that a time frame of eight months for the preparation of a CHMP is not excessive. The Committee noted that there is the potential for reductions in the current average time frame for wind farm CHMPs as cultural heritage advisers and wind farm proponents become more familiar with the process.

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672 Acciona Energy, submission no.33, p.4
673 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.104
674 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.104
676 Mr C Humphries, Economic Development Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.114
677 Mr I Hamm, Executive Director, Aboriginal Affairs Victoria, Environment and Natural Resources Committee public hearing – Melbourne 10 August 2009, transcript of evidence, p.104
Chapter 8: The environmental assessment process

Key findings

8.1 The Committee heard a number of criticisms of the Environment Effects Statement (EES) process both in relation to the process and specifically in relation to wind farm projects. The Committee heard less evidence about the benefits of the process.

8.2 Proponents argued that the EES process adds another layer of complexity to an already complicated approval process, further exacerbates lengthy approval time frames, and is not well co-ordinated with other statutory approvals. Participants also argued that the discretionary nature of the EES process adds to its complexity and creates uncertainty for proponents and the community. Uncertainty in relation to what projects require an EES creates frustration amongst the community when expectations are not met.

8.3 Many participants argued for the need to establish statutory time frames for the EES process. It was argued that a lack of clarity around time frames disadvantages all stakeholders and puts significant pressure on third party participation rights.

8.4 Proponents identified the need for clearer guidance on the scope and level of environmental assessment required for wind farm projects. Proponents felt the absence of such guidance has resulted in an inappropriately high level of assessment being required for these projects.

8.5 The Victorian Government’s response to the recommendations of the Victorian Competition and Efficiency Commission’s (VCEC) inquiry into environmental regulation in Victoria was general. The Committee is unclear as to what extent, how and when some of the VCEC recommendations in relation to the EES process will be implemented.

8.6 Proponents argued that there is a disconnect between the ‘long-term’ Victorian Government objectives for renewable energy generation and the way the government considers and gives weight to the ‘short term’ impacts of wind farms and implied that native vegetation and flora and fauna requirements should be relaxed for wind farm projects.

8.7 Proponents criticised the Native Vegetation Management Framework (NVMF) for being overly complex, cumbersome and time consuming, with significant implementation problems. The Committee concluded that most implementation problems related to the NVMF were associated with the offset process.
The Committee emphasises that native vegetation should be seen as a significant site constraint and the implementation issues raised by proponents in relation to offsets will only arise if proponents cannot avoid clearing in the first instance. However, the Committee acknowledges that if all reasonable steps have been taken to avoid and minimise clearing, the issues raised in relation to time delays are legitimate and should be addressed.

The Committee sees merit in some of the VCEC’s recommendations that aim to address implementation issues associated with the native vegetation offset process, but has concerns about the recommendation to extend the use of offsets on public land reserved primarily for nature conservation.

Community groups raised concerns about the adequacy of environmental assessments for wind farm projects. Claims made included that information provided in assessments was inaccurate, that important information was missing or ignored, and that environmental consultants prepare biased reports or are not always appropriately qualified. However, detailed evidence was not always provided to substantiate such claims.

The assessment of renewable energy projects involves complex issues requiring advice from experts and therefore the quality of the decision making process is highly reliant on the quality of the work of environmental consultants. The Committee believes that there is likely to be both perceived and real issues associated with the adequacy of environmental assessments undertaken for these projects and that these issues should be addressed.

The Environment Defenders Office argued that the ‘assessment bilateral’ agreement process under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) has not created a higher standard of impact assessment in Victoria.

Introduction

The AusWind best practice guidelines for wind farm developments identify environmental sustainability as a key attribute of a best practice wind farm:

The wind farm will be sensitive to the environment. Any potential environmental impacts will be appropriately managed and minimised during its development, construction, operation and decommissioning. It will make a positive contribution to the environment by reducing greenhouse gases through the production of green energy.678

678 AusWind, Best Practice Guidelines for Implementation of Wind Energy Projects in Australia, 2006, p.2
This chapter discusses issues that are associated with the assessment of the environmental impacts of renewable energy projects, and in particular, wind farm projects. The chapter focuses on the following issues:

- the Environment Effects Statement (EES) process;
- native vegetation and flora and fauna;
- the adequacy of environmental assessments; and
- the Environment Protection and Biodiversity Conservation Act 1999 (Cth) process.

The Committee was presented with divergent views on these issues. Many proponents of renewable energy projects argued that environmental regulations are becoming more stringent, onerous and costly to comply with, and highlighted several concerns regarding the implementation of regulations, particularly in relation to native vegetation offsets. In contrast, a number of community groups argued that environmental regulations are failing to adequately address community concerns regarding wind farm projects, and raised concerns about the adequacy of environmental assessments associated with the EES, planning permit, native vegetation and flora and fauna approval processes. Councils highlighted perceived inefficiencies and a lack of coordination between the various environmental approvals processes associated with wind farm projects.

As noted in previous chapters, there are a number of inquiries and reviews into environmental regulations that are currently in progress or have been recently completed, which have implications for the issues addressed in this chapter, including:

- an inquiry by the state government’s Victorian Competition and Efficiency Commission (VCEC) into environmental regulation in Victoria;
- a review by the Department of Planning and Community Development (DPCD) into the Planning and Environment Act 1987; and
- the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999 (Cth), led by Dr Allan Hawke and supported by a team of experts.

The implications of these are discussed in the relevant sections of this chapter.

This chapter is concerned in particular with part (a) of the terms of reference, which requires the Committee to identify the major obstacles facing investors in renewable energy projects, including environmental, planning and other regulations, and part (c) of the terms of reference, which requires the Committee to identify opportunities to reduce risks and delays for investors.

**Environment Effects Statements**

As noted in chapter 3, the Environment Effects Act 1978 sets out a process for the assessment of a project by the Minister for Planning that could have a significant effect on the environment. The EES process is not an approval. Rather the relevant decision makers are required to consider the Minister’s assessment in making a decision as to whether a development should proceed.
The *Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978* provides guidance in relation to the process, including in relation to determining the need for an EES, scoping and preparing an EES, opportunities for public review of an EES, the Minister’s assessment and decision, and coordination of other statutory processes.679

According to the Ministerial guidelines, in making a decision on the need for an EES, the Minister must consider the extent to which the project is capable of having a significant effect on the environment in terms of a range of factors, including:

- the magnitude, geographic extent and duration of adverse effects on environmental assets;
- the likelihood of adverse effects and associated uncertainty of available predictions;
- the likelihood of effective avoidance and mitigation measures;
- the range and complexity of potential adverse effects; and
- the likely level of public interest in a proposed project.

The Ministerial guidelines also describe the information that should be included in a referral to the Minister, which includes information describing the project as well as preliminary environmental studies. A referral for a wind farm project must include a preliminary landscape assessment,680 which assesses the landscape character of the site and surrounds, identifies the locations of dwellings and other infrastructure, and assesses views to the site from key vantage points.681

The Department of Planning and Community Development (DPCD) advised the Committee that all wind farm projects over 30 megawatts in capacity, as well as some projects less than 30 megawatts, have been referred to the Minister for a decision on the need for an EES. No wind farm referred since July 2006 has required an EES, while two out of the 12 have been subject to conditions. In addition, three wind farms were re-referred because the footprint area had been expanded.682

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680 Mr J Gilmore, Executive Director, Planning and Policy Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009
682 Mr J Gilmore, Executive Director, Planning and Policy Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009
## Table 8.1

**Environment Effects Statement**

**referrals for renewable energy projects since July 2006**

<table>
<thead>
<tr>
<th>Wind energy facilities</th>
<th>Solar energy facilities</th>
<th>Wave energy facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Newfield</td>
<td></td>
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<tr>
<td>2. Oakland Hills</td>
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<tr>
<td>3. Crowlands</td>
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<td>4. Lal Lal</td>
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<td>5. Mortlake</td>
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<td>6. Darlington</td>
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<td>7. Berrybank</td>
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<td>8. Ararat</td>
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<td>9. Sidonia Hills</td>
<td></td>
<td></td>
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<td>10. Stockyard Hill</td>
<td></td>
<td></td>
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<tr>
<td>11. The Sisters</td>
<td></td>
<td></td>
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<tr>
<td>12. Moorabool</td>
<td></td>
<td>Under consideration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solar energy facilities</th>
<th>Wave energy facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. North-West Victoria</td>
<td></td>
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<tr>
<td></td>
<td>n/a</td>
</tr>
<tr>
<td>14. Portland (withdrawn)</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009

DPCD is of the view that wind farm projects can be managed through the planning permit process, without the need for an EES. This is because wind farms give rise to a discrete set of environmental issues that are well understood and can often be readily managed through planning permit conditions. Mr Jeffrey Gilmore, Executive Director, Planning Policy and Reform, DPCD, stated:

> Early wind farm proposals required EESs because of their potential effects on sensitive coastal landscapes – for example, Portland and Nirranda, or on threatened species, for example, at Bald Hills. Inland wind farms have generally not required EESs because the planning permit process, together with the wind policy guidelines, provides a sound process for adequately considering the potential environmental effects.

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683 Mr J Gilmore, Executive Director, Planning and Policy Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009; Mr T Blake, Chief Environment Assessment Officer, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009

684 Mr J Gilmore, Executive Director, Planning and Policy Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July 2009
DSE explained its involvement in the EES process:

Where an environment effects statement is proposed or suggested, DSE has a role in assessing the referral and providing that advice to DPCD in the early referral stages. Where an EES process is required, DSE staff usually sit on the technical reference group and provide an assessment of the methodology, the technical material, and we do make submissions to the EES process, to the EES panel.\(^{685}\)

**Key issues**

The Committee heard a number of comments on the EES process, both those that relate to the process and those that relate specifically to wind farms. These issues are discussed below.

The Committee heard less evidence about the benefits of the EES process. One benefit of the EES process raised with the Committee is that a Technical Reference Group (TRG) must be established when an EES is required. As noted in chapter 5, the Committee recommended that a TRG be established and integrated into the assessment process for all renewable energy facilities.

**Complexity of the EES process**

A number of proponents argued that the EES process adds another layer of complexity to an already complicated approval process, further exacerbates lengthy approval time frames, and is not well coordinated with other statutory approvals.

In evidence to the Committee, Mr Eoghan McColl, Planning and Building Manager, Ararat Rural City Council argued that the EES process adds to an already complex and confusing approval process for wind farm projects, which needs to be simplified and streamlined.\(^{686}\) Origin Energy argued that the EES process adds unnecessarily to the ‘multiple hurdles’ in the approval process,\(^{687}\) while Acciona Energy argued that the EES process exacerbates already lengthy approval time frames.\(^{688}\)

The complexity of the approval process can be illustrated with the example of the Ryan Corner wind farm, which was approved by the Minister in 2008. The project was subject to an EES, an inquiry process under the *Environment Effects Act 1978*, three statutory approvals (a planning permit from the Minister for the use and development of the site; a planning permit from Council to clear native vegetation, which was ‘called-in’ by the Minister; an approval of a cultural heritage management plan), and a planning panel approval process under the *Planning and Environment Act 1987*.\(^{689}\)

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\(^{685}\) Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, 2009, transcript of evidence, p.215

\(^{686}\) Mr E McColl, Planning and Building Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August, 2009, transcript of evidence, pp.112, 120

\(^{687}\) Origin Energy, submission no.10, p.2

\(^{688}\) Acciona Energy, submission no.33, p.2

\(^{689}\) Minister's Assessment, Ryan Corner Wind Farm, under the *Environment Effects Act 1978*, May 2008, pp.3–4
Discretionary nature of the EES process

The Environment Defenders Office (EDO) suggested that the discretionary nature of the EES process adds to its complexity and the uncertainty that it creates amongst proponents and the community. They argued that not only is there no certainty as to when the EES process will be triggered, but once triggered, the process itself is also discretionary. The EDO argued that the Environment Effects Act 1978 requires revision. Ms Nicola Rivers, Policy and Law Reform Director, argued that:

... although most wind farms have not been required to go through an EES process there is a lot of uncertainty about when that will be required and when it will not, so most of them have been referred...With the ones that have been required to have them there is a lot of uncertainty about the actual process and time frames and what assessments are required.

Some of the specific concerns that we have, or recommendations we would make … are: that the assessment process should be overhauled to have a clear trigger for when an environmental impact assessment is required, which would provide a lot more certainty for proponents; a tiered assessment process based on the likely environmental impacts; some clear timeframes for different stages of the proposal, so that the community and proponents know exactly what stage they are at and how long the actual process is going to take; clear opportunities for public comment, so the public knows exactly what they can get involved in and how; and very clear guidelines in the actual assessment process, which would help not just proponents but everyone understand how the process works.690

The discretion afforded to the Minister, as well as the subjective nature of the factors that the Minister must consider in making a decision on the need for an EES, creates uncertainty in relation to what projects will be subject to the process. This creates frustration when expectations are not met, as indicated in evidence provided by Mr Peter Mitchell, Western Plains Landscape Guardians:

For example, saying there is no need for EESs or thorough and fair guidelines is just extraordinary. The project around our place is of 250 square kilometres. It has a whole range of environmental issues — native grasslands, volcanic cones, basalt ridges, lakes. It is an extraordinary place ...

There must be an EES; the community should have an EES and three months to consider it and generate its own evidence where it thinks the EES is inadequate.691

The subjective nature of the referral process was also criticised by Mr Hamish Cumming, who described to the Committee a situation where he and others provided evidence to the proponent and the Victorian Government that an area near a major wind farm project was, in their view, a significant site for brolgas, but despite this, the Minister made a decision that an EES was not required.692 The Committee understands that this wind farm was the Stockyard Hill wind farm, near Ballarat. Despite not requiring an EES, the project was declared to be a ‘controlled action’ under the EPBC Act (Cth), with the controlling provisions being ‘listed threatened species and communities’ and ‘listed migratory species’.693 The project will require approval from the Federal Environment Minister.

690  Ms N Rivers, Policy and Law Reform Director, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.85–86
691  Mr P Mitchell, Western Plains Landscape Guardians Association, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.94, 96
692  Mr H Cumming, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, pp.184–185
693  Commonwealth Department of the Environment, Water, Heritage and the Arts, Notification of Referral Decision and Designated Proponent, Stockyard Hill Wind Farm, Central Western Victoria (EPBC 2009/4719)
Both Origin Energy and Moyne Shire Council criticised the need to continue to refer wind farm projects to the Minister for Planning, given the fact that EESs have rarely been required. Origin Energy and Acciona Energy both argued that the referral process takes considerable time, money, and resources. Origin Energy stated that:

The need for an EES referral should be eliminated because the wind industry in Victoria has matured and proponents are investing in the detailed assessments in anticipation of the planning application irrespective of whether an EES is required. The EES has effectively become a redundant step in this process.

The Committee agrees that clearer guidance needs to be provided for determining when an EES is required to increase certainty for proponents and the community.

One approach to address this issue could be to amend the Environment Effects Act 1978 to provide that certain developments, because of their size, nature, or location in sensitive areas, automatically require an EES. A list of developments that require an EES could be contained in the Regulations made under the Act. This approach is taken in New South Wales, where certain developments (called ‘designated development’) listed in Regulations made under the Environmental Planning and Assessment Act 1979 automatically require the preparation of an Environmental Impact Statement.

However, the Committee recognises the difficulty in defining upfront what developments will have a significant impact on the environment (for example, small developments can have a significant impact). As such, this approach could also be complemented by an additional provision under the Environment Effects Act 1978, which requires that developments that are likely to have a significant impact on the environment, also require an EES. The Act could incorporate a set of criteria that the Minister must consider in making this decision.

The Committee is currently inquiring into the EES process in Victoria, which will provide an opportunity to further consider how clearer guidance could be provided under the Environment Effects Act 1978 for determining when an EES is required.

Statutory time frames

While the Ministerial Guidelines estimate time frames for key stages of the EES process, the process is not subject to statutory time limits and there are no sanctions for non-compliance. The Committee heard from many organisations who argued the need to establish statutory time frames for the approval process, including for the EES process. For example, the EDO argued that a lack of clarity around time frames ‘disadvantages everyone’ and ‘puts enormous pressure on third party

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694 Origin Energy, submission no.10, p.2; Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, p.154
695 Origin Energy, submission no.10 p.2; Acciona Energy, submission no.33, p.5
696 Origin Energy, submission no.10, p.2
698 Environment Effects Act 1978 ss.1–11
participation rights'. The VCEC inquiry recommended that time limits apply to key stages of the EES process, some of which would be statutory and others negotiated at the start of the process.

**Scope and level of assessment**

Proponents identified the need for much clearer guidance on the scope and level of assessment required for wind farm projects. While this issue was raised primarily in relation to the planning permit process, it is clearly an issue also relevant to the EES process. Acciona Energy argued that the assessment process for wind farm projects was subject to ‘scope creep’:

> This adds to planning time frames, can significantly expand project budgets and reduces certainty in the process. Whilst we support...[the requirements in the wind energy guidelines] ... for thorough analysis of proposed wind farm’s impacts, the guidelines are open ended. They provide no mechanism for 'locking in' the number and scope of assessments and therefore leave the door open for continually expanding requirements for studies and site assessments, all at the expense of the efficient and timely implementation of the state’s broader climate change and regional development priorities.'

Many proponents argued that this lack of guidance has meant in some cases that the level of assessment required for a planning permit is equivalent to the level required under the EES process, despite the fact that there may have been a determination from the Minister that an EES was not required. The Clean Energy Council felt that this has resulted in a level of assessment being required for wind farm projects that is not in parity with the potential impacts of those projects.

**Inquiry by the Victorian Competition and Efficiency Commission**

The Victorian Competition and Efficiency Commission (VCEC) is the Victorian Government’s primary body advising on business regulation reform and identifying opportunities for improving Victoria’s competitive position.

The VCEC inquiry identified a number of key issues with the EES process, which reflect the evidence received by the Committee. The issues include: limited co-ordination with other statutory approvals, the lack of time limits on key stages of the process, problems with the referral, screening and scoping processes, and the absence of check points for potentially narrowing the assessment. The VCEC made a number of key recommendations to address these issues, including:
• establish a process for the assessment and approval of state significant projects, similar to the Major Transport Facilitation Bill. The process would be available to projects that the Minister for Planning determines are of state significance and would integrate all approvals, with final authority for approvals given to a single Minister or a Co-ordinator General of Major Projects;
• establish statutory risk-based criteria to guide decisions on the need for an assessment under the Environment Effects Act 1978 and the level or form of that assessment. An ‘intermediate’ level of assessment should be introduced that sits between the requirements to prepare an EES (most comprehensive) and no EES subject to conditions (least comprehensive);
• improve the integration between the EES process and other statutory project approvals, and in particular, ensuring that referrals for approvals be considered concurrently with the EES;
• require that project-specific time limits be negotiated and applied to each key stage of the EES process. The time limits should be agreed at the start of the EES process and should also cover other required approvals. The scoping stage should not exceed 50 business days;
• establish the position of Co-ordinator General of Major Projects, with the primary role of facilitating the EES process at all stages (the position would not include an assessment role); and
• encourage the use of strategic assessments in regions with similar projects and common environmental issues in order to both reduce time frames and costs and to ensure that similar projects within the same region do not face different regulatory arrangements.

Victorian Government's response to the VCEC recommendations

The Victorian Government’s response to the VCEC’s recommendations was released on 22 January, 2010. The government concluded that there is scope to improve the efficiency of the EES process through a combination of possible amendments to the Environment Effects Act 1978, refinements to the Ministerial guidelines, and new ‘best practice’ guidance. Amongst other things, the government agreed to:

• provide clearer criteria for determining whether an EES is required.
• ensure the better alignment of other statutory project approvals with the EES process by establishing an ‘Integrated Management of Major Projects’ process, which will include, amongst other initiatives, the appointment of a ‘Process Co-ordinator’ for each project requiring an EES;
• strengthen the accountability for achieving targets for time frames, including establishing a 50 business day time limit for developing the scope for an EES; and
• examine the opportunities to establish a formal strategic assessment approach to enable better assessment of the cumulative impacts of multiple projects, to guide strategic land use planning or major projects planning, and to streamline procedures applying to individual projects.

The Victorian Government noted that the proposed reforms to the Planning and Environment Act 1987 include the establishment of an approval process for projects of state significance (termed ‘State Significant Major Development’), which the government argued is consistent with VCEC’s

recommendations. The government noted that in light of this proposal, the validity of the VCEC’s recommendation for an ‘intermediate’ level of assessment will need to be further considered.707

The State Significant Major Development process involves an application and declaration process, the issuing of assessment requirements, the preparation of an assessment, public participation opportunities, the establishment of an expert panel to review the assessment and hold a public inquiry, and a final decision by the Minister for Planning.708 Two key implications of the process are:

- the power to make the approval decision rests solely with the Minister for Planning; and
- the Minister’s decision is not subject to review by VCAT.

The government has proposed that ‘the use and development of land for the purpose of a wind energy, solar power, or other renewable energy facility with a capacity of 30 megawatts or more’ as one of a number of possible criterion for ‘State Significant Major Development’.709

According to the government the ‘State Significant Major Development’ process does not substitute for the EES process – the Minister may still decide that an EES is required for a major development. The government has not provided details of the level of environmental assessment required under the major development process. It is not clear to the Committee as to how the level of assessment required under the major development process will differ from that required under the EES or planning permit processes and noted that it would be concerned if the level of assessment required was less rigorous than these existing processes, including for renewable energy projects.

Because VCEC’s recommendations and the government’s response were only recently made available in late January 2010, it was not possible for the Committee to determine whether these proposals would address the key issues raised by participants in this inquiry.

However, it appears to the Committee that the government has agreed to address a number of key issues raised by participants in this inquiry, including in relation to determining when an EES is required and time frames for key stages of the EES process. However, the Victorian Government’s response to VCEC’s recommendations was general and the Committee is unclear as to what extent, how and when some of these recommendations will be implemented.

One key issue not clearly addressed by the government relates to the need to provide clearer guidance on the level of assessment required for a project. The Committee agrees with the recommendations of the VCEC who recommended the introduction of an ‘intermediate’ level of assessment into the EES process and the EDO that the EES process could be improved by introducing a tiered assessment process to enable the Minister to match the level of assessment required to the level of environmental risk of a project. A tiered assessment process was recommended by the Environment Assessment Review Advisory Committee in its 2002 report.710

708 Department of Planning and Community Development, Modernising Victoria’s Planning Act, Response Paper no. 4, State Significant Major Development, August 2009
709 Department of Planning and Community Development, Modernising Victoria’s Planning Act, Response Paper no. 4, State Significant Major Development, August 2009
The Committee believes that a tiered assessment process would provide the EES process with much greater flexibility and enable it to address projects such as wind farms that are not currently considered significant enough to be subject to an EES. A tiered assessment may address the concerns of community groups, who believe that the impacts of wind farm projects are not rigorously assessed because they do not require an EES. In addition, the process could be complemented by clear guidance on the level of detail of assessments and the assessment standards and methodologies that apply to each tier. This has the potential to address proponents concerns about 'scope creep'. If such a process was introduced, it would clearly require integration with existing assessment processes (eg. the proposed ‘State Significant Major Development Process’).

The Committee is currently inquiring into the EES process in Victoria, which will provide an opportunity for greater analysis and to make recommendations in relation to the EES process. In light of the current EES inquiry, the Committee recommends:

<table>
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<th>RECOMMENDATION 8.1</th>
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<td>A tiered assessment process should be incorporated into the Environment Effects Statement process. Clear guidance should be provided on the level of detail of assessments and the assessment standards and methodologies that apply to each tier.</td>
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Native vegetation, flora and fauna

The Native Vegetation Management Framework

In Victoria, the clearing of native vegetation is regulated under the Planning and Environment Act 1987 and Council planning schemes. The principal policy for native vegetation is Victoria’s Native Vegetation Management – A Framework for Action (NVMF). The NVMF is given legislative effect through its incorporation into the Victorian Planning Provisions (VPP). The VPP, and as a result all Council planning schemes, contain the following key provisions in relation to native vegetation:

- relevant authorities must have regard to the Framework when considering applications to clear native vegetation (clause 15.09 of the State Planning Policy Framework);
- a planning permit must be obtained from the relevant authority to clear native vegetation in most circumstances and provides ‘decision guidelines’, which are consistent with the Framework, to guide authorities in making a decision (clause 52.17); and
- certain applications for clearing of native vegetation need to be referred to the Secretary of the Department of Sustainability and Environment (DSE), (clause 66.02).

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712 Department of Natural Resources and Environment, Victoria’s Native Vegetation Management – A Framework for Action (2002)
713 Department of Sustainability and Environment, Native Vegetation: Guide for assessment of referred planning permit applications, April 2007, p.4
Councils may introduce overlays into their planning schemes to provide additional protection of native vegetation.\textsuperscript{714}

The authority responsible for making a decision on whether to issue a permit to allow clearing of native vegetation under the \textit{Planning and Environment Act 1987} is either the Council or DSE. Where an application meets the referral criteria set out in Clause 66.02, DSE is the responsible authority. Council is the responsible authority in all other cases. Council may seek DSE’s advice and comment on any application. In these cases, Council is not bound to follow DSE’s advice.

The overall goal of the NVMF is to achieve ‘a reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation, leading to a net gain’. However, the goal of the regulatory component of the NVMF, which controls clearing and provides for offsets, is to ensure ‘no net loss’ of native vegetation as a result of permitted clearing. This goal contributes to the net gain goal, which is to be achieved overall through voluntary action, incentives and market mechanisms.\textsuperscript{715}

The NVMF identifies a number of principles to guide native vegetation management in Victoria and sets out a detailed process for assessing native vegetation to determine whether an application for clearing native vegetation will be consistent with the net gain goal. It also introduces a detailed methodology, called ‘habitat hectares’, for measuring the extent and quality of native vegetation.

The ‘habitat hectares’ methodology is a key part of the process of determining whether an application for clearing will be consistent with the net gain goal. It takes into account the value of a patch of vegetation due both to its quality or condition. This methodology compares vegetation to its ‘benchmark’ or ‘undisturbed/pristine state’. Its landscape context which includes measures, such as the size of the patch and its connection to other nearby patches are also taken into consideration.

The NVMF sets out two main assessment processes:

- A process for determining whether clearing is permitted; and
- If clearing is permitted, a process for determining the native vegetation offsets required.

A native vegetation offset is defined as an activity that improves native vegetation values at one site to compensate for the loss of values at another site.\textsuperscript{716}

DSE has produced detailed guidelines that further explain and clarify aspects of the NVMF and how DSE will apply both the NVMF and the ‘decision guidelines’ under Clause 52.17 of the VPP when an application for clearing has been referred to them.\textsuperscript{717}

\begin{footnotes}
\footnotetext{714}{Department of Sustainability and Environment, \textit{Native Vegetation: Guide for assessment of referred planning permit applications}, April 2007, p.5}
\footnotetext{715}{Department of Sustainability and Environment, \textit{Securing our Natural Future: A White Paper for Land and Biodiversity at a Time of Climate Change}, November 2009, p.74}
\footnotetext{717}{Department of Sustainability and Environment, \textit{Native Vegetation: Guide for assessment of referred planning permit applications}, April 2007}
\end{footnotes}
Inquiry into the Approvals Process for Renewable Energy Projects in Victoria

The process of determining whether native vegetation clearing is permitted

Step 1: Principles

Have following principles have been met:

• Avoid the removal of native vegetation, where possible.
• Minimise the removal of native vegetation, where removal cannot be avoided.
• Offset the removal of native vegetation, where removal cannot be avoided or minimised.

The DSE guidelines provide guidance as to how these principles are to be interpreted and applied.

Step 2: Strategic, regional or local vegetation plans and strategies

Consider strategic, regional or local vegetation plans and strategies (such as regional native vegetation plans), and whether clearing is likely to cause or contribute to land or water degradation. If clearing will be inconsistent with a regional native vegetation plan or will occur on steep slopes or on highly erodable soils, it may be appropriate to object to the application. (a)

Step 3: Conservation significance of the vegetation

• Vegetation - this component is determined by identifying the vegetation type at the site according to its Ecological Vegetation Class (EVC) (b), its corresponding conservation status (c), and the quality or condition of the vegetation as determined by ‘habitat hectares’.
• Threatened species and ecological communities - this component is determined by assessing whether the vegetation at the site meets the definition of a threatened ecological community or contains habitat for a threatened species listed under the Flora and Fauna Guarantee Act 1988.
• Other attributes - this component is determined by assessing whether the site has been identified as being a site of significant natural, cultural, or scientific value.

According to the NVMF, where vegetation has been identified as ‘very high’ conservation significance, clearing is not permitted except in exceptional circumstances. Where DSE is the referral authority, approval from the Minister for Environment and Climate Change is required to override this position. Where vegetation has been identified as ‘high’ or ‘medium’ significance, clearing is ‘generally not permitted’. The DSE guidelines identify a number of circumstances where consideration will be given to overriding this position. Where vegetation has been identified as ‘low’ significance, clearing may be permitted, but vegetation offsets will normally be required.

Figure 8.2     The process of determining whether native vegetation clearing is permitted

(b) DSE has mapped Ecological Vegetation Classes across Victoria at a scale of 1:100,000.
(c) There are five categories of conservation status for EVCs – Endangered, Vulnerable, Rare, Depleted or Least Concern.
Determining offsets

As noted, where clearing is permitted, vegetation offsets will normally be required. In 2006-07, 577 applications were processed by DSE, which resulted in approximately 260 hectares of remnant vegetation patches being approved for clearing with associated offsets to be delivered of 1460 hectares. The type and extent of offset required is determined by a number of key factors, including:

- the conservation significance of the vegetation to be removed;
- the quality and extent of the vegetation to be removed as determined by ‘habitat hectares’;
- the offset criteria set out in the NVMF; and
- the expected gains that can be achieved as a result of an offset.

The offset criteria set out in the NVMF specify rules in relation to offset ratios and ‘like for like’. The higher the conservation significance of the vegetation permitted to be cleared, the higher the offset ratio required (as calculated using ‘habitat hectares’), and the stricter the ‘like for like’ rules. For example, if ‘high’ conservation significance vegetation is permitted to be cleared, the offset ratio (as calculated in ‘habitat hectares’) must be at least 1.5 times the loss. In addition, the offset site must be within the same bioregion as the clearing site and the vegetation must be the same type or of ‘very high’ conservation significance, it must play a similar landscape role, and it must be at least 75 per cent of the quality of the vegetation at the clearing site. If ‘low’ conservation significance vegetation is permitted to be cleared, the offset ratio is less and the offset rules are more flexible.

The DSE guidelines recognise four types of gain that can be achieved as a result of an offset. Gains can be achieved as a result of prior good management of a site, by increasing the security of the management and protection of vegetation at a site, or by implementing management actions to either maintain or improve the current quality of vegetation at a site. DSE has developed a gain score calculator that can be used to calculate the gains achieved from an offset.

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718 Department of Sustainability and Environment, Native Vegetation: Net Gain Accounting, First Approximation Report, April 2008, p.17
719 Department of Sustainability and Environment, Native Vegetation: Guide for assessment of referred planning permit applications, April 2007, p.16
720 The term ‘like for like’ refers to the similarity between the vegetation at the clearing site and the offset site in terms of a range of factors, including vegetation type, vegetation quality, landscape role, and vicinity (the distance of the offset site from the clearing site at a bioregional scale).
721 Department of Sustainability and Environment, Native Vegetation: Scoring Gain from an Offset – DSE Gain Calculator User Instructions, June 2006
It is the proponent’s responsibility to locate an offset that complies with the NVMF. The DSE guidelines suggest that the following steps should be applied in locating an offset:

- establish an offset on-site (ie. on the same property as the clearing site);
- search the BushBroker (see below) registers and other sources for a third party offset;
- check suitable land purchase/surrender options with DSE;
- seek expressions of interest from landowners with appropriate vegetation; and
- check suitable public land sites that require rehabilitation.

Table 8.3 provides a summary of the offset regimes in some Australian jurisdictions. Due to the complexity of the offset regimes, this table is a generalised summary only. The purpose of the table is to show how Victoria compares to other Australian jurisdictions in regard to native vegetation offset processes, and in particular, to give an indication of differences in terms of process, complexity, assessment methods and offset rules.

The table shows many similarities between the offset regimes. All regimes generally require a proponent to demonstrate that impacts have been avoided and minimised prior to considering offsets. A number of regimes also restrict the circumstances under which offsets can be used and identify certain land (such as national parks) as being ineligible for offsets. New South Wales is the other jurisdiction that mandates the use of a detailed assessment methodology in determining offsets. The ‘like for like’ rules under the different regimes are based on similar principles. However, the amount of discretion given to decision makers in applying the rules differs greatly between jurisdictions, with discretion being most limited in New South Wales.
Table 8.3

Native vegetation offset arrangements in various Australian jurisdictions

<table>
<thead>
<tr>
<th>Key element of offset regime</th>
<th>Federal</th>
<th>New South Wales</th>
<th>Queensland</th>
<th>Western Australia</th>
<th>Victoria</th>
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</thead>
<tbody>
<tr>
<td>Policy type</td>
<td>Policy statement (draft)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Legislation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Mandatory guidelines&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Policy statement&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Mandatory guidelines&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Goal of offsets</td>
<td>Maintain or enhance</td>
<td>Improve or maintain</td>
<td>To support the objectives under the Vegetation Management Act 1999</td>
<td>Net environmental benefit</td>
<td>No net loss</td>
</tr>
<tr>
<td>Offset types</td>
<td>Direct offsets</td>
<td>Direct offsets&lt;sup&gt;i&lt;/sup&gt;</td>
<td>Direct offsets&lt;sup&gt;h&lt;/sup&gt;</td>
<td>Direct offsets</td>
<td>Direct offsets&lt;sup&gt;l&lt;/sup&gt;</td>
</tr>
<tr>
<td>When offsets can be used</td>
<td>Approval to clear and use offsets determined on a case-by-case basis Must demonstrate that a hierarchy has been met: • First avoid/mitigate&lt;sup&gt;k&lt;/sup&gt; • Second offset</td>
<td>Approval to clear and use offsets generally not given for ‘red flag’ areas Must demonstrate that a hierarchy has been met: • First avoid/mitigate&lt;sup&gt;l&lt;/sup&gt; • Second offset</td>
<td>Approval to clear and use offsets is determined by complex rules set out under ‘regional vegetation management codes’&lt;sup&gt;m&lt;/sup&gt; Must demonstrate that a hierarchy has been met: • First avoid/mitigate • Second offset</td>
<td>Approval to clear and use offsets generally not given for ‘critical assets’ and ‘high value assets’ Must demonstrate that a hierarchy has been met: • First avoid • Second minimise • Third offset</td>
<td>Approval to clear and use offsets generally not given for ‘very high’, ‘high’ and ‘medium’ conservation significance vegetation Must demonstrate that a hierarchy has been met: • First avoid • Second minimise • Third offset</td>
</tr>
<tr>
<td>Land ineligible to be an offset</td>
<td>No explicit exclusions</td>
<td>Land reserved under the National Parks and Wildlife Act 1974&lt;sup&gt;n&lt;/sup&gt; Existing offsets Land incompatible with biodiversity conservation</td>
<td>Land subject to existing legislative protection Vegetation mapped as remnant vegetation unless it has a clearing approval Existing offsets Certain protected land such as steep slopes and stream protection zones</td>
<td>No explicit exclusions</td>
<td>No explicit exclusions</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes definitions, standards and rules, and practical guidance for implementation.

<sup>b</sup> Legislation is specific and prescriptive. It is commonly implemented in the form of regulations, guidelines and codes.

<sup>c</sup> Mandatory guidelines are prescriptive statements of policy to guide decision making, for example ‘regional vegetation management codes’.

<sup>d</sup> Policy statement sets the framework for action, for example ‘Vegetation Management Act 1999’.

<sup>e</sup> Mandatory guidelines.

<sup>f</sup> Indirect offsets.

<sup>g</sup> Direct offsets.

<sup>h</sup> Contributing offsets.

<sup>i</sup> Direct offsets.

<sup>j</sup> Direct offsets.

<sup>k</sup> First avoid/mitigate.

<sup>l</sup> Second offset.

<sup>m</sup> Regional vegetation management codes.

<sup>n</sup> National Parks and Wildlife Act 1974.
Table 8.3  
Native vegetation offset arrangements in various Australian jurisdictions *(continued)*

<table>
<thead>
<tr>
<th>Key element of offset regime</th>
<th>Federal</th>
<th>New South Wales</th>
<th>Queensland</th>
<th>Western Australia</th>
<th>Victoria</th>
</tr>
</thead>
</table>
| **Assessment**               | Assessment report should address the guidelines  
No assessment methodology | Mandatory assessment methodology | Assessment report should address the guidelines  
No assessment methodology | Assessment report should address the guidelines  
No assessment methodology | Mandatory assessment methodology |
| **Offset rules**             | Short list of factors to consider for ‘like for like’  
Much decision making discretion in determining ‘like for like’  
The ‘like for like’ factors to consider include:  
- Value or function of the vegetation or habitat  
- Vegetation quality and quantity  
- Same bioregion or sub-region | Detailed objective rules for ‘like for like’  
Little decision making discretion in determining ‘like for like’  
The ‘like for like’ factors to consider include:  
- Same or scarcer vegetation type that contains the same habitat for species  
- Same vegetation formation  
- Same or better landscape context  
- Same or larger vegetation patch size  
- Same or an ecologically similar sub-region | Detailed objective rules for ‘like for like’  
Some decision making discretion in determining ‘like for like’  
The ‘like for like’ factors to consider include:  
- Same vegetation group  
- Same or higher conservation status  
- Same key habitat factors for species  
- Ecological equivalence, which considers landscape context, species diversity, vegetation quality, patch size, connectivity, and special values  
- Same bioregion | Long list of factors to consider for ‘like for like’  
Much decision making discretion in determining ‘like for like’  
The ‘like for like’ factors to consider include:  
- Vegetation type, quality, and quantity  
- Species composition  
- Landscape function  
- Regional biodiversity strategies and priority investment areas  
- Same local area or bioregion | Detailed objective rules for ‘like for like’  
Some decision making discretion in determining ‘like for like’  
The ‘like for like’ factors to consider include:  
- Same or higher significance vegetation or habitat type  
- Similar vegetation quality  
- Similar or better ecological or land protection function  
- Same bioregion  
- Same bioregion |
| **Mechanism for management** | Unclear, but guidelines imply a requirement for a legally binding agreement and management plan | Legally binding agreement  
Management plan | Legally binding agreement  
Management plan | Unclear, but guidelines imply a requirement for a legally binding agreement and management plan | Legally binding agreement  
Management plan |
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b. The New South Wales BioBanking scheme is established under the *Threatened Species Conservation Act 1995*


d. Environmental Protection Authority, 2006, Environmental Offsets, Position Statement No.9, Government of Western Australia, Perth; Environmental Protection Authority, 2008, Guidance for the Assessment of Environmental Factors, Environmental Offsets – Biodiversity, No.19, Government of Western Australia, Perth


f. Direct offsets are the protection, restoration, and rehabilitation of habitat. Indirect offsets include financial contributions to trust funds, implementation of recovery plans, contributions to research or education programs, management activities such as monitoring, preparation and implementation of management plans, etc

g. Direct offsets are the protection, restoration, and rehabilitation of habitat. The decision maker can take ‘environmental contributions’ including financial contributions into account in determining the offset requirements

h. Direct offsets are the protection, restoration, and rehabilitation of habitat. A financial contribution is not considered an offset

i. Direct offsets are the protection, restoration, and rehabilitation of habitat. Contributing offsets include financial contributions to trust funds, implementation of recovery plans, contributions to research or education programs, management activities such as monitoring, preparation and implementation of management plans, etc

j. Direct offsets are the protection, restoration, and rehabilitation of habitat.

k. Offsets may be considered prior to avoiding and mitigating impacts in cases where better environmental outcomes could be achieved

l. The obligation to avoid and minimise before considering offsetting is only placed on ‘red flag’ vegetation (vegetation of ‘high conservation significance’)


n. This includes national parks, state conservation areas, regional parks, nature reserves, and other land reserved primarily for nature conservation

o. While an offset is allowed on public land, only certain types of gains as a result of the offset are available. For example, an ‘improvement gain’ (from revegetation) is not available for public land reserved primarily for nature conservation (eg. national parks)

p. The offset rules in the different jurisdictions are often very complicated and are not easily summarised. This is a generalisation of the offset rules only

q. For example, foraging habitat for a threatened species should be offset with foraging habitat for that same species

r. A vegetation formation is the broadest classification of vegetation in New South Wales. There are 16 vegetation formations in NSW, including ‘Rainforest’, ‘Grasslands’, ‘Heathlands’, ‘Grassy Woodlands’, ‘Freshwater Wetlands’, etc. This rule prevents, for example, a wetland being used to offset impacts on a rainforest

s. The decision maker has some discretion to determine what values of the clearing site are required to be offset. For example, if the decision maker determines that the clearing site is ‘essential habitat’ for a species, then the policy lists rules that must be met to offset essential habitat. If it is determined that the clearing site is important in terms of connectivity to other nearby vegetation, then the policy lists rules that must be met to offset connectivity. Not all the values of a clearing site need to be offset

t. This is a generalisation of the ‘like for like’ rules for vegetation of ‘very high’ or ‘high’ conservation significance
**The BushBroker scheme**

The BushBroker scheme was established by the Victorian Government in an effort to reduce the costs for business of locating and securing appropriate offsets.\(^{722}\) DSE prefers that all third party offsets be arranged through BushBroker.\(^{723}\)

A landowner wishing to establish an offset on their land can approach BushBroker. BushBroker undertakes a site assessment to determine the value of the vegetation at the offset site, in many cases using ‘habitat hectares’. In consultation with the landowner, BushBroker then develops a ‘landowner agreement’, which sets out the management actions and other commitments that the landowner agrees to implement at the offset site. Based on the site assessment and the agreed management actions and commitments, BushBroker quantifies the expected gains achieved as a result of the offset. These gains are called ‘credits’ and are registered on a ‘credit register’.\(^{724}\)

Proponents seeking to offset permitted clearing can provide BushBroker with details of the type and extent of the offset required. BushBroker will search a database for landowners who have either registered expressions of interest to establish an offset site or who have had their credits estimated or confirmed, and will forward a list of the potential matches for the offset to the proponent. The proponent may then negotiate a price for the landowner’s credits directly with the landowner. Once a price is agreed, BushBroker establishes a ‘credit agreement’, which details the obligations of each party and the number, type, and price of credits that are recorded against the proponent’s name.\(^{725}\)

DSE receives from the proponent and holds in trust the total agreed price for the credits, which it then pays to the landowner in instalments over a 10 year period. The landowner will only receive the money after implementing the management actions and other commitments as required under the ‘landowner agreement’ and providing DSE with an annual report.\(^{726}\)

**Flora and fauna**

According to the Victorian Government submission, if a project is likely to have an impact on native vegetation or protected flora and fauna, the proponent may be required to apply for a permit under the *Flora and Fauna Guarantee Act 1988* (FFG Act).\(^{727}\)

The *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) also provides for the protection of threatened and migratory species and ecological communities listed under that Act. The EPBC Act is discussed later in this chapter.

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723 Department of Sustainability and Environment, *Native Vegetation: Guide for assessment of referred planning permit applications*, April 2007, p.15
725 Department of Sustainability and Environment, *BushBroker, BushBroker Process – Permit Holders, Information Sheet No.20*, September 2009
726 Department of Sustainability and Environment, *BushBroker, BushBroker Process – Landowner, Information Sheet No.3*, September 2009
727 Victorian Government, submission no.21, p.16
The government submission states that the Minister for Environment and Climate Change may make an Interim Conservation Order (ICO) providing for the protection of flora, fauna, land or water by prohibiting or regulating any activity or process on the relevant land. An ICO can ‘stipulate that permits are required for certain activities, and can take precedence over licences, permits or other authorisations under other Acts and planning schemes to the extent of any inconsistency’.728

Impacts on fauna may also be factored into decision guidelines for the issuance of a planning permit under a zone (such as Rural Conservation Zone) or overlay (such as Environmental Significance Overlay). In addition, an EES prepared under the Environment Effects Act 1978 would normally include a requirement to assess the impacts of a development on listed flora and fauna.729

The wind energy guidelines require that an application for a planning permit provide information on the locations of flora and fauna listed under the FFG Act and the EPBC Act, including significant habitat corridors for the movement of these fauna as well as an assessment of the impact of the proposal on any species (including birds and bats) listed under these Acts.

Mr Brendan Sydes, Principal Solicitor, Environment Defender’s Office, advised the Committee that the FFG Act often has little influence over approval decisions in relation to wind farm projects because flora and fauna becomes only one of many issues that must be taken into account by decision makers in making a decision on whether to approve a project, and these other issues are often given greater weight in making the decision.730

In contrast, Union Fenosa Australia advised that flora and fauna issues can have a large influence on the approval process.731 Proponents also advised the Committee that the information used to assess the impacts of wind farm projects on flora and fauna, particularly on birds and bats, is often substantial.732 Proponents often hire consultants to undertake the assessments.

A number of community groups raised issues in relation to the adequacy of flora and fauna assessments. These issues are discussed later in this chapter.

Key issues

The Committee heard from a wide range of participants in relation to the NVMF and flora and fauna issues. In general, proponents criticised the NVMF, and particularly the offset process, for being overly complex and time consuming. Councils raised issues mainly in relation to the interaction between the native vegetation and planning permit approval processes, while community groups raised issues mainly in relation to the adequacy of flora and fauna assessments.

728 Victorian Government, submission no.21, p.16
729 Victorian Government, submission no.21, p.16
730 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.85
731 Mr A Terrill, Associate, Tract Consultants, on behalf of Union Fenosa Wind Australia, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.26
732 WestWind Energy, submission no.30, p.7; Acciona Energy, submission no.33, p.2
Conflict between policy objectives

Union Fenosa Wind Australia argued that there is a ‘disconnect’ between the ‘long-term’ Victorian Government objectives for renewable energy generation and the way the government considers and gives weight to the ‘short term’ impacts of wind farms. They argued that DSE often takes an overly strict stance on flora and fauna issues, which prevents the proper balancing of competing objectives:

... often the position they [DSE] put forward earlier in the feasibility stage, if you like, is of such strength that the wind farm developer sees no future in a particular project and will not proceed with any other investigations or indeed with lodging a planning application. The planning system is set up to balance competing objectives, competing interests, but in some cases projects do not reach the panel and therefore the flora and fauna objectives are not balanced against other government policies because the position of DSE is so strong.733

A number of wind farm proponents argued that native vegetation and flora and fauna impacts should be assessed taking into account the important role that wind farms play in mitigating the effects of climate change. They pointed out that climate change is a far greater threat to biodiversity than wind farms, and implied that, as a result, consideration should be given to relaxing the requirements in relation to native vegetation and flora and fauna approvals for wind farm projects.734

In contrast, the EDO argued that there is a clear and consistent policy basis for the exemptions that exist under the planning system for native vegetation removal (based around the continuation of existing activities) and any move to exempt or relax native vegetation requirements for renewable energy projects would be a clear departure from this basis, and would therefore be inappropriate.735

Mr Peter Harris, Secretary, DSE, explained to the Committee that native vegetation approvals for most renewable energy projects are managed by DSE because of their size.736 Mr Grant Hull, Group Manager, Biodiversity Services, South West Victoria, explained DSE’s role in relation to native vegetation and flora and fauna issues. Mr Hull emphasised that DSE ‘...seeks to influence projects by working positively with project proponents prior to planning and during the statutory planning and approvals processes. We see that as a very important part of our role’. Mr Hull stated further that:

... the department encourages consultation by project proponents very early in the planning and design stage. This enables the department to inform proponents about the department’s standards for information gathering, impact assessment and reporting. It enables the department to identify sites of significance and encourage avoidance of these sites. It allows the department to overall influence the environmental standards of the project. It is the department’s view that early consultation by

733 Mr A. Terrill, Associate, Tract Consultants, on behalf of Union Fenosa Wind Australia, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.26
734 Union Fenosa Wind Australia, submission no.31, p.2; Mr T Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.16; Mr K. McAlpine, Government Relations Manager, Vestas Australian Wind Technology, Environment and Natural Resources Committee public hearing – Melbourne, 27 July, 2009, transcript of evidence, pp.49–50
735 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.87
736 Mr P Harris, Secretary, Department of Environment and Sustainability, briefing to the Environment and Natural Resources Committee, Melbourne, 21 July, 2009
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Project proponents will assist to streamline assessment and approval processes for wind energy projects.\footnote{Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, transcript of evidence, p.217}

DSE explained to the Committee that in assessing development proposals in relation to native vegetation, including wind farms, the DSE guidelines for planning permit applications are followed, which amongst other things, require the application of the ‘three-step approach’ to native vegetation of ‘avoid’, ‘minimise’ and then ‘offset’.\footnote{Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, transcript of evidence, p.216} DSE also considers the potential impacts of proposals on species, populations, and ecological communities, having regard to their conservation significance, and ‘...the magnitude, extent and duration of change in the values for each of those species’.\footnote{Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, transcript of evidence, p.216} DSE emphasised that all project types are assessed in the same way and requirements are not relaxed for renewable energy projects.\footnote{Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, transcript of evidence, pp.217, 219}

The Committee does not agree with the position that environmental regulations should be relaxed or modified for renewable energy projects. The Committee believes that there should be consistency in the application of environmental regulation and approval processes for projects that have the potential to cause significant environmental impacts.

Complexity of the Native Vegetation Management Framework

Many wind farm proponents criticised the native vegetation approval process for being overly complex, cumbersome and time consuming, and argued that it exacerbates the complex and time consuming planning permit process.\footnote{AGL Energy, submission no.6, p.2; Clean Energy Council, submission no.22, p.2; NewEn Australia, submission no.17, p.3; Pacific Hydro, submission no.29, pp.6, 11} While Pacific Hydro noted that NVMF was ‘scientifically beautiful to look at as a piece of policy’\footnote{Mr T. Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.17} and were supportive of key components of the policy,\footnote{Mr T. Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.11} they argued that the NVMF suffers from significant implementation problems to the extent that the process has become a ‘road block’ to the approval of wind farm projects in Victoria.\footnote{Mr T. Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.16}

According to Pacific Hydro, it can take up to two years to complete the native vegetation approval process.\footnote{Pacific Hydro, submission no.29, p.11} In contrast, DSE stated to the Committee that, based on a recent analysis, the average time it takes DSE to process a native vegetation application is 2.3 days.\footnote{Mr T Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.16} The large discrepancy

\footnote{Ms K Dripps, Executive Director, Biodiversity and Ecosystem Services, Department of Environment and Sustainability, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July, 2009}
between these two figures appears to be due to the time it can take proponents to find offsets for permitted clearing. This issue was raised by many participants, and is discussed further below.

The EDO argued that the implementation of the NVMF has improved considerably in recent years and there is now sufficient certainty for proponents as to what is expected. They argued that, as a result, the onus should be placed firmly on the proponent to take native vegetation into account when making decisions about a development. The EDO argued that native vegetation should be seen as a site constraint and implied that the NVMF goes some way to achieving this. Mr Brendan Sydes, Principal Solicitor, Environment Defender’s Office stated:

> It is often the case, for instance in roads developments and things, that people would say, ‘We have gone to all of this trouble in developing a particular proposal for a particular road and you are telling us at the last minute that there are native vegetation constraints that apply and we can’t do it that way’. Often that was really a symptom of not having taken those issues seriously and thoroughly into account at the very start of the process. If you do that, there seems to me to be no reason why a lot of the supposed regulatory impediments presented by significant native vegetation being on a site cannot be avoided as an issue from the very outset.

Mr Sydes also pointed out that while the NVMF is complex, part of its complexity arises as a result of the way that it prioritises the protection of native vegetation by making it easier to clear and offset less significant vegetation and harder to clear and offset the most significant vegetation. Mr Sydes implied that this prioritisation process already gave the NVMF a substantial amount of flexibility.

DSE put forward a similar argument to the Committee. Mr Grant Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, stated that:

> In the first instance the department’s position is always to advise proponents to avoid native vegetation, and we are always very up front in saying, ‘If you cannot avoid it, there will be additional time taken, and also additional costs involved’ so we are very much up front in saying, ‘Avoid, avoid, avoid if you possibly can. If you cannot, there will be some additional requirements’.

The Committee agrees with the position that native vegetation should be seen as a significant site constraint. More than half of Victoria’s native vegetation has been cleared and the vegetation that remains is particularly important not only for maintaining threatened species, but also for maintaining the health and productivity of landscapes. The NVMF, by emphasising the need to avoid clearing in the first instance and by making it more difficult in cases where clearing cannot be avoided, helps to ensure that native vegetation is seen as a site constraint.

The Committee concluded that most implementation problems associated with the NVMF relate to the offset process, and in particular the time it takes for proponents to find appropriate offsets for permitted clearing. This issue is discussed further below.

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747 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.86
748 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, pp.86–87
749 Mr B Sydes, Principal Solicitor, Environment Defenders Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.87
750 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September, transcript of evidence, pp.217
751 Department of Sustainability and Environment, Native Vegetation: Sustaining a Living Landscape, March 2006, p.4
Interaction between the native vegetation and planning permit processes

The Committee heard evidence that the interaction between the native vegetation and planning permit processes is complex and confusing and caused unnecessary delays. The complexity arises as a result of the number of different decision makers, permits, other approvals, and appeal avenues associated with the approval process for a wind farm project.

Union Fenosa Wind Australia pointed out that while the Minister considers applications for wind farms over 30 megawatts, other approvals that are often required, such as the native vegetation approval associated with the electricity grid connections, are not automatically considered by the Minister. Mr Adam Terrill stated:

> So you have the difficult situation of having to request the minister to call-in the native vegetation component so that he can consider that at the same time as the wind energy facility; otherwise, you have the minister considering the wind farm and the council considering the vegetation removal for the same wind farm. [This] is clearly an additional step, and it can be slow and can be subject to all sorts of delays for political reasons.  

AGL explained they had obtained a planning permit for the Oaklands Hill wind farm, and then made an application to clear native vegetation. This was approved, but the decision was subsequently appealed to VCAT. The Minister then ‘called-in’ the appeal for determination. AGL argued that the process caused delays far in excess of what would occur in other jurisdictions.

Mr Eoghan McColl, Planning and Building Manager, Ararat Rural City Council, also argued that the situation where the Minister deals with the turbines, but Council or DSE deals with the other approvals, such as the native vegetation approval, was making the process ‘muddied and difficult, and unnecessarily so’. Mr McColl argued that the process needs to be streamlined and ‘tidied up’.

The submission from Councils in South West Victoria made a similar argument, recommending that native vegetation approvals required for the off-site aspects of a wind farm projects, such as the electricity grid connections, should be assessed and approved by the Minister, along with the rest of the project. The submission advised that the preferred route for wind energy projects for grid connection was often along road reserves, which often contain the native vegetation of the highest conservation significance in the South West.

The wind energy guidelines confirm that the wind energy facility and the electricity grid connections are regarded as separate land-uses and are thus normally subject to separate planning applications, with potentially two different responsible authorities (the Minister for Planning and Council). The guidelines state that approval time frames could differ depending on the nature of the applications.

It is undesirable for the native vegetation impacts associated with one development to be split into two approvals processes. The Committee investigated options for better integrating the native vegetation management with the planning application process.
vegetation approvals for the wind energy facility and the electricity grid connections associated with the project. However, within Victoria’s privatised electricity system, a transmission or distribution network service provider is responsible for undertaking the grid connections required to augment the electricity grid in order to connect a new generator. The Committee understands that this usually includes acquiring easements and applying for native vegetation permits. As a consequence, permits for the wind energy facility and for the electricity connections will normally be progressed by two different entities: the wind farm developer for the former, and the transmission or distribution network service provider for the latter. This situation makes integration of the two processes difficult.

In addition, the Committee understands that applications by renewable energy generators to connect to the grid will often be finalised after the planning permit has been approved. The consequence is that the proponent would not be aware of the exact location and ‘pathway’ of any new transmission or distribution infrastructure when their planning application is submitted. The Committee considered whether it would be possible to require wind farm developers to provide the planning authority for a wind energy facility with the estimated locations or ‘envelopes’ within which electricity lines or substations would likely be constructed for their projects. However, the Committee concluded that such an approach could create the incentive for wind farm developers to apply to clear more native vegetation than is actually necessary and may also involve additional expenditure on complex native vegetation assessments for areas in which removal would not be required.

However, the Committee believes that there needs to be better coordination between the planning and connection approvals processes for renewable energy facilities. Decision makers should be informed, to the extent possible, of the broader context of a wind farm application, and be informed as to the likely scenarios for its connection to the electricity network. A recommendation that the role of departmental Project Managers should include active coordination with the government agency, institutions, and companies involved in grid connection is made in chapter 9 of this report.

**Staging of assessments and approvals**

Pacific Hydro argued that effectively there are two stages to the approval process for wind farms – the planning permit stage and the construction consent stage – and that, to enable the flexibility that is required to accurately and efficiently design a wind farm, the assessment required for each stage should move from the general to the specific. They argued that the planning permit stage should assess a ‘development envelope’ and an ‘indicative layout’, while the construction consent stage should assess the ‘final layout’. They argued that native vegetation impacts are best assessed and considered for approval concurrent with the construction consent.

A further issue raised in relation to the implementation of the NVMF was the need to obtain approval for an Offset Management Plan (OMP) prior to the commencement of construction. Pacific Hydro argued that this is often an unrealistic requirement because assessments of native vegetation loss may need to be amended following construction, and negotiations with landowners about offsets are often both sensitive and time consuming and cannot be forced to fit a construction timetable.

757 Acciona Energy, personal communication, 28 January 2010
758 Pacific Hydro, submission no.29, p.6
759 Pacific Hydro, submission no.29, p.6; Mr R. Holloway, Principal Environmental Planner, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.19
Pacific Hydro recommended that this requirement be relaxed and replaced with a requirement for the proponent to commit to the preparation of an OMP. They also wanted time frames for the approval of an OMP to be made consistent with the NVMF’s time frames for implementation, which vary depending on the conservation significance of the native vegetation to be removed.760

The Committee did not receive enough evidence to make any findings in relation to the need to change the current staging of the OMP process. The Committee again emphasises that native vegetation should be seen as a significant site constraint. The issues advanced by proponents in relation to the OMP process will only arise if proponents cannot avoid clearing in the first instance.

Complexity of the offset process

As noted, the issue most often raised in relation to the implementation of the NVMF was the complexity of the offset criteria and the time it takes for proponents to find offsets for permitted clearing. This issue was also raised by participants in the VCEC inquiry, who considered that the criteria impose excessive costs and time delays on businesses.761 Pacific Hydro argued that the offset criteria should be simplified and the ‘like for like’ rules should be made more flexible.762

In evidence to the Committee, Mr Peter Harris, the Secretary of Department of Sustainability and Environment (DSE), acknowledged that finding of fsets can occasionally be a time consuming process for proponents and emphasised that DSE was working to address this issue.763

The VCEC inquiry investigated options for increasing the flexibility of the offset process. The key recommendations were:

- Establish, and enable offsets to be provided in, ‘offset reserves’, which should be identified on a regional basis in strategic native vegetation plans.
- Simplify the offset rules by:
  - Expanding the use of payment in lieu of offsets, including where native vegetation of high and very high conservation significance is to be cleared. Payment in lieu normally involves a proponent making a payment to a trust or Council, who then uses that money to meet the offset requirements (eg. by funding management actions at a site). This option is currently restricted to vegetation of low conservation significance.

760 Pacific Hydro, submission no.29, p.12
762 Mr T Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July, 2009, transcript of evidence, p.17
763 Mr P Harris, Secretary, Department of Environment and Sustainability, briefing with the Environment and Natural Resources Committee – Melbourne, 21 July, 2009
Providing more scope to allow offsets on public land reserved primarily for nature conservation. Currently, offsets can be located on public land (although the gains that can be achieved are limited), but not on public land reserved primarily for conservation.

Enabling the use of environmental bonds to facilitate the approval of planning permits. This would involve a proponent providing a bond to an approval authority in exchange for being allowed to clear native vegetation without first securing an offset.

Seek expressions of interest from the business and non-profit sectors to provide BushBroker services. 764

The Victorian Government’s recent response to the VCEC inquiry765 and the white paper Securing our Natural Future: A White Paper for Land and Biodiversity in a Time of Climate Change766 identified a number of proposed changes to the NVMF, which include:

- Establish case management and memoranda of understanding arrangements for proponents that regularly engage in native vegetation issues and offsetting.
- Investigate the use of payment in lieu for small and low-risk offsets.
- Investigate expanding the scope for offsets to be located on public land.
- Simplify the rules for assessing low-risk applications for clearing.
- Investigate the use of BushBroker franchises to expand the supply of offsets.

While the Victorian Government did not support the expansion of payment in lieu because it is likely to shift risk from the private sector to the government and the environment, it committed (in the White Paper for Land and Biodiversity) to investigating this proposal for small and low-risk offsets.767

Similarly, while the government did not generally favour expanding the scope for offsets to be located on public land because it felt it would place the net gain objective at risk, it committed in its response to the VCEC inquiry to investigating the risks and options associated with this proposal.768

The Victorian Government’s response to the VCEC inquiry also stated that it will examine the experience of the Western Grassland Reserve (established to supply offsets for Melbourne’s future growth areas) in considering any future expansion of the concept of ‘offset reserves’.769

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766 Department of Sustainability and Environment, Securing our Natural Future: A White Paper for Land and Biodiversity in a Time of Climate Change, November 2009, pp.74–75
767 Department of Sustainability and Environment, Securing our Natural Future: A White Paper for Land and Biodiversity in a Time of Climate Change, November 2009, p.75
The Committee again emphasises that native vegetation should be seen as a significant site constraint. The issues advanced by proponents in relation to offsets will only arise if proponents cannot avoid clearing in the first instance. The Committee agrees with the argument that if clearing cannot be avoided, then it is legitimate to expect that there will be alternative processes that must be followed in order to protect natural vegetation. However, the Committee acknowledges that if clearing has been deemed acceptable under the NVMF, then the issues raised by proponents in relation to time delays are legitimate and should be addressed.

Because VCEC’s recommendations and the Victorian Government’s response were only recently released, it was not possible for the Committee to investigate whether these proposals would address the key issues raised by participants in this inquiry. However, the Committee has concerns about some of VCEC’s recommendations and sees merit in others.

The Committee has concerns about VCEC’s recommendation to expand the scope for offsets to be located on public land reserved primarily for nature conservation. A key principle in the use of offsets is the principle of ‘additionality’, which states that to be effective an offset must go beyond ‘business as usual’ and result in an outcome that would not have otherwise occurred. The Committee is of the view that it will be very difficult to ensure that the actions that comprise the offset will be additional to existing management obligations on land reserved primarily for nature conservation and believes that this recommendation will place the objectives of the NVMF at risk. The Committee also understands that some other Australian jurisdictions, such as New South Wales and Queensland, do not allow offsets to be located on land reserved primarily for nature conservation.

The Committee sees merit in the concept of establishing ‘offset reserves’ on a regional basis and in using the BushBroker scheme to expand the supply of offsets. The franchises could include private business, non-government organisations or other entities.

The Committee has not had the opportunity to fully consider the concept of offset reserves and acknowledges VCEC’s conclusion that there are key design issues to resolve before implementing this approach. One key issue that is likely to require addressing is the principle of ‘additionality’. However, the Committee noted that offset reserves are potentially beneficial because they provide a mechanism for authorities to ensure that offsets are located in areas that will achieve the greatest outcomes for biodiversity conservation (for example, biolinks, large patches, buffer zones, etc). Offset reserves could also provide a mechanism to better match offset supply and demand.

**RECOMMENDATION 8.2**

The Victorian Government further investigate:

(a) the concept of establishing ‘offset reserves’ on a regional basis; and

(b) using BushBroker franchises to expand the supply of offsets as a matter of urgency.

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771 In NSW, clause 11 of the *Threatened Species Conservation (Biodiversity Banking) Regulation 2008* states that an offset established under the NSW BioBanking scheme cannot be located on land reserved under Parts 4 and 4A of the *National Parks and Wildlife Act 1974*, which includes national parks, state conservation areas, regional parks, nature reserves, and other land reserved primarily for nature conservation.
The Committee noted that the NSW Government has recently established the BioBanking scheme, which has similarities to the NVMF. While the Committee understands that aspects of the scheme were modelled on the NVMF, it also understands that new elements were introduced into the scheme. The Committee sees merit in the Victorian Government investigating the BioBanking scheme, particularly in relation to any offset initiatives that could address time delay issues.

Aspects of the NSW BioBanking scheme are summarised in table 8.4.

Table 8.4: The New South Wales BioBanking scheme

The NSW Government has recently established the BioBanking scheme. The implicit aim of the scheme is to ensure that clearing associated with development proceeds in a way that ‘improves or maintains biodiversity values’. Many aspects of the scheme are similar to the Victorian NVMF.

BioBanking is a market-based instrument, which does two main things:

- It controls the clearing of vegetation resulting from development in urban areas.
- Where clearing is permitted, it establishes a procedure to offset the impacts of the clearing.

The impacts of clearing and the benefits of the offsets are measured in terms of biodiversity credits.

BioBanking enables biodiversity credits to be generated by landowners who commit to improve and protect biodiversity values on their land. These credits can then be sold, generating funds for the management of the site. Credits can be used to offset the impacts on biodiversity values that occur as a result of development, or can be sold to those seeking to invest in conservation.

A key component of the BioBanking scheme is the ‘BioBanking Assessment Methodology’. The methodology must be used to determine whether clearing is permitted (i.e. whether it will ‘improve or maintain biodiversity values’). If clearing is permitted, the methodology must be used to determine the appropriate offset (i.e. the number of credits required to offset the clearing).

In determining whether clearing is permitted, the methodology requires that the Director-General of the Department of Environment, Climate Change and Water (DECCW) be satisfied that all reasonable measures have been considered to avoid adverse impacts (this includes consideration of different configurations of the development footprint to avoid or minimise impacts).

An offset may be located in most areas in NSW, although it cannot be located in certain areas such as conservation reserves. An offset can be located on other public land, but in these cases, credits can only be created for management actions that are additional to existing legislative requirements.

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772 New South Wales Department of Environment and Climate Change, *BioBanking Assessment Methodology*, July 2008, p.4
The methodology contains a set of offset rules that aim to ensure the 'like for like' principle is met. For an offset to meet the 'like for like' principle, an offset must meet five criteria:

- It must be located in a 'sub-region' that is ecologically similar to the clearing site (NSW is divided into 13 'regions', which are in turn divided into many more 'sub-regions').
- It must be located in the same vegetation type or a vegetation type that is scarcer than the vegetation at the clearing site and that contains the same habitat for threatened species.
- It must be located in the same vegetation formation to the clearing site.\[^{773}\]
- It must be located within the same or better 'landscape context' to the clearing site (this is determined based on the amount of vegetation in the landscape, the connectivity of the site with surrounding vegetation, and the size of the patch of vegetation at the site).
- It must be located with the same or larger patch size to the vegetation at the clearing site.

The overall effect of the five offset criteria is that if the threatened species being impacted at the clearing site are restricted in distribution then the location of the offset sites will also be restricted (for example, an offset site may be required to be obtained from within the same 'sub-region' as the clearing site). However, if all the threatened species being impacted have broad distributions then the offsets can be obtained from a wide range of locations across NSW.

Clearing at a site will usually result in a number of different sets of credits being required to offset the impact. Each set of credits has a 'credit profile' associated with it, which is determined based on the five offset criteria. The credit profile of the offset site must match the credit profile of the clearing site for an offset to be considered suitable. The different sets of credits (each with a different credit profile) can be obtained from a single offset site or many different offset sites.\[^{774}\]

**RECOMMENDATION 8.3**

The Victorian Government investigate the NSW BioBanking scheme, particularly in relation to any measures that could address implementation issues associated with time delays while ensuring the protection of native vegetation.

\[^{773}\] A vegetation formation is the broadest classification of vegetation in NSW. There are 16 vegetation formations in NSW, including 'Rainforest', 'Grasslands', 'Heathlands', 'Grassy Woodlands', 'Freshwater Wetlands', etc. This rule prevents, for example, a wetland being used to offset impacts on a rainforest

\[^{774}\] NSW Environmental Defender’s Office, Legal Fact Sheet No.65 ‘BioBanking’
Adequacy of environmental assessments

A number of community groups raised concerns about the adequacy of wind farm environmental assessments, including those prepared for the planning permit process and to address flora and fauna impacts. Claims made included that information provided in assessments was inaccurate, that important information was missing or ignored, and that environmental consultants prepare biased reports or are not always appropriately qualified. However, detailed evidence was not always provided to substantiate such claims.

Mr Hamish Cumming described a situation regarding the impacts of a proposed wind farm project on brolgas. Mr Cumming argued that the environmental consultants employed by the proponent to undertake a flora and fauna assessment had not adequately identified the significance of a nearby area for brolgas and had ignored information that he had provided to them and the proponent. Mr Cumming also felt that claims made by consultants in assessment documents were not being checked by relevant authorities.

Similarly, Mr Bill Rogerson, Grampians-Glenthompson Landscape Guardians, alleged that there were a range of issues not adequately assessed for a proposed wind farm in the region, while Mr Russell Guest, Manager, Strategic Planning, Moyne Shire Council, argued that social and traffic issues were not properly assessed for a wind farm in Moyne Shire.

Some community groups argued that the environmental assessment process undertaken as part of the planning permit process was subject to conflicts of interest and bias. They implied that because consultants are hired by proponents to prepare assessments, they have an incentive to prepare reports that support the interests of the proponent and are therefore likely to be biased.

Mr Bill Rogerson, Grampians-Glenthompson Landscape Guardians, stated:

> Environmental studies of visual and surrounding area amenities, aircraft safety and flora and fauna are matters to be considered. However, since developers employ consultants, the process is non-transparent with results slanted towards the findings they want — like distorted photomontages and wire frames. There is a need for an independent fund with trustees to manage these investigations.

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775 Mr B Rogerson, Mr A Lyon, Ms H Barker, Grampians-Glenthompson Landscape Guardians Inc, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.132–139; Mr H Cumming, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, pp.184–189
776 Mr H Cumming, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, pp.186–187
777 Mr B Rogerson, Grampians-Glenthompson Landscape Guardians Inc, Environment and Natural Resources Committee public hearing – Ararat, 24 August, 2009, pp.132–134
778 Mr R Guest, Manager, Strategic Planning, Moyne Shire Council, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, p.159
779 Mr A Lyon, Grampians-Glenthompson Landscape Guardians Inc, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.139; Mr P Mitchell, Western Plains Landscape Guardians Association, submission no.15, pp.6–7
780 Mr B Rogerson, Grampians-Glenthompson Landscape Guardians Inc, Environment and Natural Resources Committee public hearing – Ararat, 24 August, 2009, transcript of evidence, p.132
Similarly, Mr Adrian Lyon argued that effectively, proponents are paying environmental consultants ‘to give favourable information’ and argued that the assessment process needs to be improved to provide some incentive for consultants to give quality and accurate information.781

Mr Peter Mitchell also highlighted the ‘unlevel playing field’ that exists between proponents and community groups in relation to environmental assessment. Proponents can afford to pay experts and have more time to undertake assessments, while community groups rarely have the expertise to properly question the adequacy of assessments and generally cannot afford to engage their own experts to undertake reviews. Mr Mitchell stated:

The proponent has been spending two years, three years, getting his expert reports, doing all this kind of thing. Out comes the information. What have I got to do? I have to find an expert, I have to pay an expert, I have to get the expert out to do all the work in six weeks.782

Mr Hamish Cumming also highlighted the difficulties faced by community groups in accessing environmental information while trying to determine the adequacy of assessments.783

The Committee heard evidence from DSE in relation to its role in reviewing the adequacy of native vegetation and flora and fauna assessments for wind farm projects. Mr Grant Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Sustainability and Environment, explained that the adequacy of assessments is checked by DSE staff with relevant expertise:

All the material that is provided to DSE is then reviewed by the biodiversity staff. A matter of a brolga assessment would go to our brolga expert, Richard Hill. Richard would sit down, he would read that and he may talk to other people — our policy staff in Melbourne. We have ‘threatened species’ policy staff; they may well have a particular strength in a particular area.

We will look at that, we will discuss it and we will do an assessment, and we will provide comment back to the proponent. We can do that as a preliminary. We do not want to handle the documents too often, and this is a bit of a workload issue for DSE. We do not want to keep seeing variations of the same document. But generally we are quite prepared to provide some preliminary advice, look at a preliminary document and then look at a penultimate document … 784

DSE usually requires surveys to be undertaken for flora and fauna assessments and insists that surveys are carried out at the appropriate time of year for the species being surveyed. DSE will require consultants to do further work where it does not consider that the surveys are adequate.785

Mr Hull explained that DSE does not do its own surveys to check assessments undertaken by proponents, but rather will validate assessments using existing data:

781 Mr A Lyon, Grampians-Glenhthompson Landscape Guardians Inc, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.139
782 Mr P Mitchell, Western Plains Landscape Guardians Association, Environment and Natural Resources Committee public hearing – Melbourne, 10 August, 2009, transcript of evidence, p.95
783 Mr H Cumming, Environment and Natural Resources Committee public hearing – Port Fairy, 7 September, 2009, transcript of evidence, pp.196–197
784 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.219
785 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.216
I guess to that extent the department sees itself as a regulator. If a wind farm is proposed on a private property then we use the existing data. We will validate the assessment undertaken by the proponent, but we do not undertake surveys in our own right. We do not see that as part of our role.786

The Committee also heard evidence from DSE in relation to its role in making data available for use in preparing flora and fauna assessments for wind farm projects. Mr Hull explained that DSE does not know everything there is about local environments and species, but it does hold a range of data on species, including in statewide databases. There is a process for validating new data to be entered into DSE’s databases,787 which can sometimes take up to two years.788

Mr Andrew Pritchard, Team Leader, Biodiversity Services, Far South West, Department of Sustainability and Environment, explained that:

> We not only collect our own data via our threatened species project officers who are working on perhaps an individual species, whether that be an orange-bellied parrot or a striped legless lizard or a red-tailed black cockatoo or brolgas — we have got that data that goes into statewide databases; you have heard about the time lag — but we also have our own database set and our own officers who we can assist proponents with when they come to us. We say, ‘Yes, there is a bit of a lag and this is our most current data’, so we supply that.

> Our project officers and departmental staff who are working out there work on a number of those projects and have an understanding of what the habitat values are for each one of those species. If a proponent is proposing a project, and he comes to us in the formative stages of that project, we will say, ‘Based on our information — and you have the likely habitat — these are the things you need to involve your environment consultants in and to be searching for when you are out there.”789

Like most impact assessment processes, the assessment of renewable energy projects involves complex technical issues requiring advice from experts. As such, the quality of the decision making process is highly reliant on the quality of the work of environmental consultants.

The Committee believes that there is likely to be both perceived and real issues associated with the adequacy of environmental assessments undertaken for renewable energy projects. The Committee is of the view that the quality of assessments could be better ensured by providing:

- Clearer guidance on the scope and types of assessments required and the appropriate methodologies and standards that should be used in undertaking assessments.
- Mechanisms to regulate the work of environmental consultants.

786 Mr G. Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.221
787 Such as, the Victorian Fauna Display and the Flora Information System
788 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, pp.219–220
789 Mr A Pritchard, Team Leader, Biodiversity Services, Far South West, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.220
Clearer guidance on how to undertake assessments

The wind energy guidelines set out the environmental assessment requirements for wind farm projects. While the guidelines identify the types of assessments that should be undertaken for a planning permit application, they provide very little or no detail on the assessment methodologies or standards that should apply in undertaking the assessments.790

In terms of native vegetation and flora and fauna assessments, Mr Hull explained that DSE has prepared detailed guidance on how to prepare assessments on the brolga791 and also engage early with proponents in order to guide the assessment process. Mr Hull stated:

> We provide advice on site considerations, on methodology for gathering and collecting data, and reporting on that. We provide comment on preliminary technical assessments and provide advice about accessing DSE data. Through this early engagement DSE really seeks to guide the development of project proposals and to influence the environmental standards of those. 792

However, it appears to the Committee that detailed guidance on how to undertake environmental assessments for other key issues associated with wind farm projects is not readily available.

Clear guidance on how to undertake an assessment is not only important for proponents and consultants, but also for the community. It gives the community clarity as to what a good assessment comprises and therefore a greater capacity to objectively critique assessments and to participate meaningfully in decision making processes.

The Environment Protection and Heritage Council (EPHC) has recently released detailed draft guidelines for assessing wind energy projects.793 The purpose of the EPHC guidelines is to create a nationally consistent set of best practice methods for assessment in order to give communities the confidence that wind farm projects will be assessed in a rigorous and consistent manner across jurisdictions and between proponents.794

The EPHC guidelines provide detailed methodologies and standards for addressing six key issues, including noise, landscapes, birds and bats, and shadow flicker. Importantly, EPHC emphasises that the guidelines aim to avoid placing requirements on wind farm proponents that do not apply to proponents of other infrastructure projects that impact the environment in a similar way.795

790 Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, September 2009, pp.2–35
791 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.217
792 Mr G Hull, Group Manager, Biodiversity Services, South West Victoria, Department of Environment and Sustainability, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.215
793 Environment Protection and Heritage Council, National Wind Farm Development Guidelines, Public Consultation Draft, October 2009
795 Environment Protection and Heritage Council, National Wind Farm Development Guidelines, Public Consultation Draft, October 2009, pp.7–8, 14
The Committee is unable to comment on the adequacy of the EPHC guidelines. However, the Committee supports the intent of the guidelines and sees merit in them being adopted in Victoria, subject to finalisation and agreement from the Victorian Government that the methodologies they contain are suitable in the Victorian context. One mechanism for adoption could be to incorporate a provision in the Victorian Planning Provisions that require approval authorities to consider the guidelines in assessing the adequacy of assessments for wind farm projects.

**Mechanisms to regulate the work of environmental consultants**

Mr Peter Mitchell suggested that the EES process could be improved by instituting a mechanism for dealing with consultants who provide false and misleading information.796

The Committee understands that neither the *Planning and Environment Act 1987* nor the *Environment Effects Act 1978* contain any provisions relating to false and misleading information.797 In contrast, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) contains provisions that make it an offence under the Act to provide false and misleading information in obtaining an approval, in response to a condition on an approval, or to an authorised officer.798

The Environment Institute of Australia and New Zealand (EIANZ), Australia’s primary industry group for environmental consultants, has established the ‘Certified Environmental Practitioner’ program, which is Australia’s first accreditation scheme for environmental consultants. It includes a public register and a mechanism to deal with third party complaints against a certified member.799 EIANZ has also established a Code of Ethics to which members of EIANZ should adhere.800

The Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999* recently made recommendations to improve the quality of environmental assessments prepared in relation to the Act. The Review concluded that existing codes help promote best practice but do not have the ability to enforce minimum standards because consultants are not obliged to abide by them and the range of sanctions associated with breaching the codes may not be strong enough. It also concluded that an effective scheme requires accreditation of specialist streams rather than just generalist consultants, but existing schemes are not yet developed enough to provide this.802

The Independent Review recommended that a Code of Conduct be developed in consultation with the environmental consulting industry and designed for the specific purpose of improving the adequacy of assessments. The Review suggested that the Code could be endorsed by the Council.

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796 Mr P Mitchell, Western Plains Landscape Guardians Association, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.96; Mr P Mitchell, submission no.15, pp.6–7
797 *Planning and Environment Act 1987; Environment Effects Act 1978*
798 *Environment Protection and Biodiversity Conservation Act 1999*, division 17
of Australian Governments for use by consultants working in the different assessment regimes across Australia and could be made enforceable under the *Trade Practices Act 1974* (Cth).

To complement the Code of Conduct, the Independent Review also recommended that the Federal Environment Minister undertake random audits to test for inconsistencies or irregularities in the information provided in referrals and assessments, as well as random audits to test whether the predictions about impacts or the effectiveness of mitigation measures are accurate. The review recommended that the results of the audits be used to inform decisions in relation to enforcing the Code of Conduct and feed back into on-going improvements to the assessment process.

The Committee supports these recommendations made in the independent review.

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**RECOMMENDATION 8.4**

The Victorian Government should incorporate a provision in the Victorian Planning Provisions that require approval authorities to consider the Environment Protection and Heritage Council National Wind Farm Development Guidelines in assessing the adequacy of assessments for wind farm projects, subject to finalisation of the guidelines.

**RECOMMENDATION 8.5**

The Victorian Government should insert provisions under both the *Planning and Environment Act 1987* and the *Environment Effects Act 1978* in relation to false and misleading information, similar to the provisions in the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

**RECOMMENDATION 8.6**

The Victorian Government should support the development of a national Code of Conduct for environmental consultants through the Council of Australian Governments in accordance with Recommendation 24 of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*, or alternatively, develop a Victorian Code of Conduct, which should be made enforceable under an appropriate mechanism.

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RECOMMENDATION 8.7

The Victorian Government should implement a system of random auditing of the adequacy of wind farm referrals and environmental assessments and the accuracy of predictions made in assessments. The results of the audits should be used to inform decisions in relation to enforcing the Code of Conduct as well as feed back into the improvement of the assessment process.

Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) is the Australian Government’s principal piece of environmental legislation.

Proponents of developments that are ‘likely’ to have a ‘significant impact’ on a ‘matter of national environmental significance’ must make a referral to the Federal Minister for the Environment, Heritage and the Arts for a determination on whether the action is a ‘controlled action’. 805 If the Minister decides that the action is a controlled action, then the action must be assessed and approved under the EPBC Act. This may be in addition to any assessment and approval required under Victorian legislation (the EPBC Act operates separately to State legislation). The EPBC Act specifies a number of different methods or levels of assessment that may be required. 806

The Australian Government has signed an ‘assessment bilateral’ agreement with the Victorian Government. This agreement means that the Federal Environment Minister makes a decision on whether to approve an action under the EPBC Act using the assessment report prepared under Victorian legislation (ie. prepared under the planning permit or EES processes). 807

The two key issues raised in relation to the EPBC Act were:

- The removal of a separate assessment process at a Federal level under the EPBC Act as a result of the ‘assessment bilateral’ agreement is problematic because ‘those problems that are in the Victorian processes are now … extended to the federal process …’808; and
- The EPBC Act allows third parties to apply to the Federal Environment Minister to reconsider a matter that has previously been determined, which creates significant delays. 809

808 Ms N Rivers, Policy and Law Reform Director, Environment Defender’s Office, Environment and Natural Resources Committee public hearing – Melbourne, 10 August, 2009, transcript of evidence, p.87
809 Clean Energy Council, submission no.22, pp.9–10; Acciona Energy, submission no.33, p.5
Submissions to the Independent Review of the EPBC Act also argued that the ‘assessment bilateral’ agreement process has failed to create a higher standard of impact assessment in the States and Territories. The recommendations of the Independent Review are relevant to the first issue.

The Independent Review suggested that the Australian Government, through COAG, standardise the State, Territory and Federal impact assessment regimes and create a uniform set of assessment methods to be used by each jurisdiction, with clear rules on the requirements and differences between each of the assessment methods. The standardisation process could occur through ‘mirror legislation, a model code, or standard assessment guidelines’.

The Independent Review also recommended that an ‘assessment bilateral’ agreements should be negotiated and assessed against the standards established for impact assessment by the Australian Government. The Review identified that the ‘assessment bilateral’ agreements would need to be renegotiated as soon as possible to reflect any amendments to the EPBC Act.

Additional recommendations made by the Independent Review that relate to streamlining of Victorian and Australian government impact assessment processes include the establishment of joint State or Territory and Federal assessment panels, which should benefit proponents by streamlining assessment processes and generating a uniform set of conditions.

The Committee agrees in principle with the above recommendations of the Independent Review, which have the potential to further streamline the Victorian and Australian government assessment processes and raise the standard of impact assessment in Victoria.

The Committee also noted that the current inquiry into the EES process in Victoria will provide a greater opportunity for the Committee to analyse and make recommendations in relation to the ‘assessment bilateral’ arrangements that apply to Victoria.

In relation to the second issue, the Committee noted that the EPBC Act only allows the Federal Environment Minister to reconsider a decision...
about whether an action is a ‘controlled action’ and does not allow the Minister to reconsider an approval decision. In addition, the Federal Minister can only reconsider a decision about a controlled action in limited circumstances, including on the basis of ‘substantial new information’ about likely impacts or a ‘substantial change in circumstances’ not foreseen at the time of the original decision that relates to likely impacts.

In relation to this issue, the Environment Defenders Office argued that:

There is no evidence that this provision [s78A of the EPBC Act] is being used detrimentally in relation to renewable energy projects. In the nine years since the EPBC Act has been in force only four wind energy projects have been sent for reconsideration. Of those four, one decision that approval was not required was confirmed as correct, two were downgraded from a controlled action to not a controlled action (meaning those proponents did not then require an EPBC Act assessment), and only one was changed from ‘not a controlled action’ to a ‘controlled action’...due to substantial new information regarding the presence of protected migratory species in the project area.

The Committee is of the view that the provisions of the EPBC Act that allow the Federal Environment Minister to reconsider a decision about whether an action is a ‘controlled action’ are appropriate and are unlikely to substantially affect the approval process for renewable energy projects.

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815 Environment Protection and Biodiversity Conservation Act 1999 ss.75, 78A
816 Environment Protection and Biodiversity Conservation Act 1999 ss.78, 78A
817 Environment Defender’s Office, submission no.39, p.9
Chapter 9: Connecting to the transmission and distribution network

Key findings

9.1 Victoria's transmission and distribution network was designed before the introduction of renewable energy. The Victorian grid is tailored for:

- large, centralised coal-fired plants located at a distance from major load centres;
- relatively controllable and constant generation;
- the unidirectional flow of electricity from large-scale plants to consumers; and
- management practices that focus on altering the supply of energy rather than demand.

The variable and intermittent nature of renewable energy generation and the location of renewable energy resources in areas remote from the existing infrastructure, make renewable energy generation difficult to integrate onto the grid.

9.2 Systemic changes across the stationary energy sector are needed if Australia is to increase the contribution of renewable energy to its electricity supply. The Committee concluded that environmental concerns should be incorporated into the objectives of the National Electricity Market (NEM).

9.3 The Victorian Government should begin preparing for the investments needed in grid infrastructure in the medium to long-term. A more proactive and strategic approach to investment in transmission for renewable energy sources needs to be adopted by the Victorian Government.

9.4 Historically, it has not been possible for investors in renewable energy to take advantage of economies of scale where a number of generators in a similar location want to connect to the grid. However, the Ministerial Council on Energy has recently endorsed a proposal by the Australian Energy Market Commission (AEMC) for facilitating economies of scale in the provision of network infrastructure, to clusters of renewable generators. The AEMC proposal for the strategic planning and funding of generation clusters has potential in terms of its ability to address a number of the issues identified by stakeholders in relation to grid connection in Victoria. However it is difficult to assess how effective the proposed reforms will be, as detailed policy and legislative provisions have not been released by the AEMC.
9.5 The Committee received evidence from the renewable energy industry that the process for negotiating a connection to the transmission and distribution network in Victoria is unnecessarily complex, costly and lengthy.

9.6 A consequence of the structure of the energy sector in Victoria is the many obstacles to timely and cost efficient grid connections for the renewable energy industry. This includes the requirement that proponents negotiate with multiple parties with different requirements and risk profiles. In particular, proponents must obtain their connection from network service providers (NSPs) who are natural monopolies. Proponents expressed concern about a lack of transparency, power imbalances and information asymmetries in the relationship between NSPs and renewable generators.

9.7 The Victorian Government needs to take a more proactive approach to the facilitation of renewable energy grid connection applications at the project level.

9.8 Regulatory reform in relation to the distribution network is required in order to make the transition to a decentralised, energy efficient, demand-sensitive grid.

9.9 Many local governments and businesses exploring the potential for distributed generation will face similar challenges stemming from the complexity of current connection requirements. The Committee has concluded that there is a role for the government in facilitating the connection process for distributed generation.

9.10 Smart grids address a number of challenges currently facing the energy sector by modernising the transmission and distribution systems, providing greater consumer choice, increasing efficiency and facilitating the incorporation into the electricity network of new generation technologies.
Introduction

On the commissioning side of things, connection to the Victorian electricity transmission system is fraught with unexpected and unnecessary costs and delays, and the entire risk profile is really transferred onto the project proponents. We would recommend that there be a review of the transmission network connection process and a specific emphasis on increasing the transparency, cost-effectiveness and attention to time frames within that process; the establishment of a single-connection facilitation entity which would negotiate to provide clear timings for us early in the process; and increasing project financial certainty by reforming processes to match international experience in markets which are very used to a large-scale renewable as part of their power supply — so countries such as Spain, Denmark or Germany are probably a long way ahead of us in this regard and we should probably look to them to see how they are doing it — and that technical requirements for connections should be fit for purpose. Finally the network service provider should contribute to the costs where there would be a broader net benefit, or a deferred cost, obtained by the development of a wind farm promoter or weaker parts of the grid.818

Acciona Energy

Access to the transmission and distribution grid819 is essential for a renewable energy project as transmission lines carry electricity long distances and distribution lines carry low voltage electricity to consumers. The Committee was advised by proponents that grid access is a major constraint on investment for the renewable energy industry. Many of the obstacles to grid connection identified by the renewable energy industry during this inquiry, are indicative of broader systemic issues within the stationary energy sector.820

This is acknowledged in the Victoria Government’s recent Climate Change Green Paper which states that:

Victoria faces some particularly difficult challenges in reducing emissions because of our heavy reliance on brown coal (a high greenhouse gas emitting fuel) to generate electricity. To move to a low carbon future, we will need to adopt a new approach to managing and using our energy resources. Our stationary energy sector will need to undergo a significant transformation, especially in the production of electricity.821

This chapter addresses part (a) of the terms of reference for the inquiry by examining the obstacles encountered by proponents of renewable and distributed generation attempting to connect their projects to the transmission and distribution network in Victoria. These obstacles include the following:

- the physical infrastructure and regulatory framework of Victoria’s energy sector were not designed to facilitate renewable energy generation;
- historically there has been a lack of strategic planning for network infrastructure investments in Victoria;
- systemic issues associated with the role and regulation of network service providers make the process of connecting renewable energy to the grid costly and time-consuming; and

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818 Dr I Lawrie, Manager, Planning Acciona Energy, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.108
819 The terms ‘grid’ and ‘network’ are used interchangeably by the energy industry
820 Victorian Government, Victorian Climate Change Change Green Paper, Melbourne, 2009, p.33; Stationary energy is the production, supply and use of energy that is not transport related, including electricity and gas
• on the basis of the evidence received in this inquiry, the Committee concluded that many of the systemic issues encountered by renewable energy proponents as they try to connect to the electricity network are shared by smaller-scale, decentralised, low-emissions generators located close to consumers, often described as ‘distributed generators’. Given the potential of distributed generation to provide significant gains in the efficiency, security and sustainability of Victoria’s energy supply, the Committee has considered the issue of network connections for distributed generators as part of this chapter.

In making recommendations to address these obstacles to efficient grid connections for renewable energy proponents, this chapter is concerned with part (c) of the terms of reference, which require the Committee to identify opportunities to reduce risk and delays for investors in renewable energy projects.

The Committee has also examined innovations which have the potential to address network obstacles to renewable energy generation in the future. ‘Smart grid’ technology has the potential to integrate increasing levels of intermittent and decentralised renewable and distributed energy into electricity networks. Smart grids apply information and communications technology to improve the efficiency and effectiveness of the generation, transmission, distribution and consumption of power.822 This chapter finally considers current government measures aimed at developing and implementing smart grids.

This inquiry took place in the context of significant policy and institutional changes in national energy policy and regulation. A number of institutional reforms have occurred and several reviews have been conducted that impact upon the uptake of renewable energy in the NEM.823 These reforms and reviews are discussed in this chapter. One outcome of the recent review into Energy Market Frameworks in Light of Climate Change of significance to this inquiry, was the AEMC’s proposal for changes to energy market regulation that would introduce new planning and investment arrangements for transmission infrastructure to support ‘hubs’ or ‘clusters’ of renewable generators. In considering the implications of the AEMC’s recommendations, this chapter addresses part (e) of the terms of reference, which requires the Committee to consider ‘other reviews and inquiries covering similar issues’.

Federal climate change and renewable energy policy was in a state of uncertainty throughout this inquiry. In addition, energy and climate change policy are evolving at the State level. The Victorian Government is currently developing its Future Energy Statement for release in 2010. According to the Government:

823 These include the Australian Energy Market Commission releasing final reports of its Review of Energy Market Frameworks in Light of Climate Change Policies and Review of National Framework for Electricity Network Planning and Expansion. In addition, the AEMC is currently conducting a Review of Demand Side Participation in the National Electricity Market. In its new role as National Transmission Planner, the Australian Energy Market Operator (AEMO) is in the process of developing its first National Transmission Network Development Plan (NTNDP) which will be released in 2010. The Australian Energy Regulator (AER), which has recently been given the role of economic regulator for Victoria’s distribution network service providers (DNSPs) has produced a number of discussion papers on the framework and approach that will be applied to the regulation of Victorian DNSPs.
This statement aims to ensure a secure and reliable energy supply for Victoria while achieving reductions in greenhouse gas emissions in the most cost effective way. The primary aims for this statement are to tell the story of Victoria’s energy future to better engage the Victorian community and to outline the Government’s plan to ensure a secure, reliable and sustainable energy supply during the transition to a carbon-constrained economy.824

- The government’s previous energy policy statement, Energy for Victoria, was produced in 2002.825
- According to the Climate Change Green Paper, released in 2009, the Victorian Government’s ‘main objectives for the stationary energy sector into the future’ are to:
  - support the provision of an efficient, reliable, safe and secure energy system that recognises and addresses the need to reduce greenhouse gas emissions;
  - maintain access to energy by ensuring a fair, competitive market;
  - promote energy supply and use that is environmentally sustainable and less greenhouse intensive; and
  - address planning barriers to the promotion and uptake of low carbon energy forms.

These objectives are similar to the energy objectives that have underpinned Government policy since 2002, with the most significant distinction being a greater emphasis upon environmental sustainability and reducing greenhouse gas emissions.826

The Climate Change Green Paper commits the Victorian Government to promoting low emissions technologies as the ‘key to Victoria’s energy future’.827 The paper states that:

*The Victorian Government can continue to play a strong role in fostering industry and regional development by attracting new investment and signalling Victoria’s intention of becoming a location for new energy ideas, expertise and initiatives. Further activity in this area has the potential to drive important innovation in clean energy technologies, and to boost regional development through large-scale projects.*828

**Energy sector participants**

Key participants in the Victorian electricity system can be broadly described as follows:

- **Generators:** refer to both the infrastructure and the company which owns the infrastructure. The term is interchangeable. Generators generate power, which then goes through the transmission network. Examples of major Victorian generators are Loy Yang A (owned by AGL, TEPCO, Transfield Services and others); Yallourn (owned by TRUenergy) and Hazelwood (owned by International Power and the Commonwealth Bank).
• **Transmission Network Service Providers:** own and operate high voltage transmission towers and wires that transport electricity. In Victoria, the transmission network asset owner is SP AusNet.

• **Distribution Network Service Providers:** owners and operators of the substations and the wires that transport energy from distribution centres to end use consumers; providers of technical services, including construction of power lines, inspection of equipment, maintenance and street lighting. There are five distribution network service providers in Victoria: CitiPower and Powercor, Jemena, United Energy and SP Ausnet.

• **Retail companies:** which buy electricity in the wholesale National Electricity Market, and produce a package of transmission and distribution services for sale to the consumer. Victoria has 29 licensed retailers, including Origin Energy, AGL Energy and TRUenergy.

• **the Australian Energy Market Operator (AEMO):** energy market operator, which combines the functions of electricity and gas market operator, transmission planner and also has a role in the Victorian system of planning and procuring transmission connections.

• **the Australian Energy Regulator (AER):** which has responsibility for economic regulation and market rule enforcement. One of the AER’s roles is to determine the revenues transmission infrastructure providers, such as SP Ausnet, and distribution network service providers, such as Powercor, should receive for building more infrastructure. These costs are ultimately passed on to consumers.

• **the Australian Energy Market Commission (AEMC):** which is responsible for rule-making and energy market development in the National Electricity Market.

• **the Ministerial Council on Energy (MCE):** which is responsible for policy making.

• **Essential Services Commission:** issues permits for transmitting, distributing and generating electricity for supply or sale under the *Electricity Industry Act 2000*.

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### Energy sector: obstacles to investment in renewable generation

This section of the report examines the extent to which the structure of the energy sector obstructs investment in renewable energy in Victoria. It begins by exploring the ability of Victoria’s electrical infrastructure to incorporate renewable energy. The chapter then examines the regulatory and policy framework of the energy sector in Victoria and concludes that reforms are required in order to incorporate the principle of environmental sustainability. Additional pressures on grid infrastructure are also discussed.

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Chapter 9: Connecting to the transmission and distribution network

Victorian energy infrastructure

Victoria’s transmission and distribution network was not designed to facilitate renewable generation. As discussed in chapter 3, the Victorian grid is tailored for:

- large, centralised coal-fired plants located at a distance from major demand centres;
- relatively controllable and constant generation;
- the unidirectional flow of electricity from large-scale plants to consumers; and
- management practices that focus on altering the supply of energy, rather than the demand for it.

By contrast, renewable energy generators often produce variable electricity flows and are located in areas that are sometimes remote from existing grid infrastructure.

Variability of renewable energy supply

The flow of electricity from wind, solar and wave resources is intermittent and variable. These flows can be difficult to predict, as energy production is reliant on changeable weather and climatic conditions. Challenges therefore exist in terms of integrating renewable energy into Victoria’s energy infrastructure which is designed for constant and predictable energy sources, like coal and gas.

However, recent research has shown that wind electricity can provide a significant proportion of total electricity without a reduction in system reliability and that while managing the variability of wind adds costs, these costs are modest.\textsuperscript{830}

In a study conducted in 2007, Victoria’s former transmission planner, VENCorp, concluded that the State’s network can accommodate significant wind power generation. They also found that ‘with the appropriate technical solutions, wind power generation of approximately 3,000 MW installed capacity (and possibly up to 4,000 MW depending on where generation is located) can be accommodated by the Victorian transmission network.’\textsuperscript{831} The current capacity of Victoria’s wind energy sector is 458 MW.\textsuperscript{832}

Resources remote from existing infrastructure

The Victorian transmission network is centred around the power stations of the Latrobe Valley (figure 9.1). However the best locations for renewable energy generation are often remote from the grid due to their reliance on alternative resources. Distribution network service providers CitiPower and Powercor noted in their submission to the inquiry that:

\textsuperscript{830} Mr P Komor, \textit{Wind and Solar Electricity: Challenges and Opportunities}, Pew Center on Global Climate Change Solutions White Paper Series, June 2009, p.16

\textsuperscript{831} VENCorp, \textit{Capacity of the Victorian Electricity Transmission Network to Integrate Wind Power}, December 2007, p.6

\textsuperscript{832} See chapter 2, p.1
The nature and impact of wind generators on the surrounding environments means that the location of existing and proposed wind farms tends to be in remote areas where the customer density is relatively low. These areas, such as the southwest of Victoria, are however characterised by sparse, low capacity electrical infrastructure which is not configured or constructed to accommodate large quantities of distributed generation.833

Figure 9.1 Victorian electricity and gas transmission networks

<table>
<thead>
<tr>
<th>ELECTRICITY</th>
<th>GAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>500kV Transmission</td>
<td>Principal Transmission System</td>
</tr>
<tr>
<td>330kV Transmission</td>
<td>Other Transmission system</td>
</tr>
<tr>
<td>275kV Transmission</td>
<td></td>
</tr>
<tr>
<td>220kV Transmission</td>
<td></td>
</tr>
<tr>
<td>HDVC Transmission</td>
<td></td>
</tr>
</tbody>
</table>

Source: VENCorp, Annual Planning Report 2009, p.i

Energy market policy and regulation

While there has been little innovation in the nature of Victoria’s grid infrastructure over the past century, there has been a significant change in the philosophy, governance and institutional framework of its energy sector during the last two decades. Prior to 1990, electricity was supplied by publicly owned authorities which controlled the generation, transmission, distribution and retail of energy. Reforms to the energy sector disaggregated these authorities into separate generation, transmission, distribution and retail entities. The objective of the reforms was to ‘increase competition, improve efficiency and provide greater choice for end-use electricity consumers’ by decentralising and privatising the whole electricity supply chain during the late 1990s and

833 CitiPower and Powercor, submission no.20, p.4
Victoria’s electricity sector is now also part of the National Electricity Market (NEM), a wholesale market for the supply of electricity to retailers and end-users in Queensland, New South Wales, the Australian Capital Territory, Victoria, South Australia and Tasmania. NEM has increased the coordination amongst regional grids and has the potential to ease the management of variable resources like wind and solar. Also, Victoria’s disaggregated grid enables the costs of renewable generation to be individually priced which may assist in the identification of new solutions to the problems facing renewable generation.  

However, it has been argued that in order for Victoria’s stationary energy sector to become more sustainable, reform of the current regulatory and institutional framework is required. According to the Victorian Employers’ Chamber of Commerce and Industry (VECCI):

There is structural inertia in Victoria’s energy systems, in both supply and distribution. This occurs not only because of the efficiencies that drive competitive pricing, but also because of the way incumbency has ‘locked-in’ fossil fuel technologies and built both technological and institutional barriers to the rapid adoption of alternatives better suited to a carbon-constrained world.  

The National Electricity Market (NEM) was designed before climate change became a major issue for governments. Energy consultants - McLennan Magasanik Associates (MMA) - noted that ‘while the NEM was ostensibly designed to be technology neutral’, the structure and design of the market could ‘result in suboptimal levels of investment in low emission generation technologies in the light of greater understanding of the cost of greenhouse gas emissions’. Their report states that ‘while emissions trading will be the major policy instrument in response to climate change, rectifying other market failures that impede the entry of renewable and low emissions generation into the NEM would enable this target to be met at a lower cost.’ MMA’s report suggests that rather than relying solely on an emissions trading scheme and renewable energy target to achieve emissions cuts, combining these market-based mechanisms with structural reforms would result in a more effective transition to a less emissions intensive energy sector. VECCI also argues against relying on market-based mechanisms, such as an emissions trading scheme, as the sole focus of energy sector sustainability reform.  

Energy lawyer Ms Rowena Cantley-Smith has similarly contended that ‘the current energy market’s legislative and regulatory framework fails to adequately address the issue of stationary energy emissions and the imperative to move towards a more sustainable energy market.’ Like VECCI, Cantley-Smith believes that market-based mechanisms such as an Emissions Trading Scheme

835 Mr P Komor, Wind and Solar Electricity: Challenges and Opportunities, Pew Center on Global Climate Change Solutions White Paper Series, June 2009, pp.23, 25
836 Victorian Employers’ Chamber of Commerce and Industry (VECCI), Sustainability: Fostering Investment, Innovation and Confidence, VECCI Victoria Summit 2009, p.6
839 Victorian Employers’ Chamber of Commerce and Industry (VECCI), Sustainability: Fostering Investment, Innovation and Confidence, VECCI Victoria Summit 2009, p.6
(ETS) will be insufficient on their own to bring about the rapid transformation of the energy sector towards a more sustainable electricity supply.  

Greater Bendigo City Council wrote in its submission to the inquiry that:

\[ \text{Regulation of energy markets is also an important factor to consider in the renewable energy approvals process. Currently this regulation has a strong economic based focus, with little or no regard to the inclusion of environmental externalities, which many consider is an inhibitor to the take up of renewable energy projects.} \]

The Committee believes that systematic changes across the stationary energy sector are required if Australia is to increase the contribution of renewable energy to its electricity supply. Inclusion of environmental concerns in the NEM objective will enable environmental sustainability to be addressed by the institutions governing the market, the national planning body, governments and market participants as a central aspect of their decision making. The Committee was advised that the introduction of environmental sustainability into the NEM objective is supported by the Clean Energy Council.

Environmental considerations have featured in a number of the NEM’s regulatory arrangements since its inception. For instance, the first National Grid Protocol in 1992 described the objective of the National Grid Management Council as being to ‘encourage the most efficient, economical and environmentally sound development of the electricity industry, consistent with key National and State policies and objectives’, as being to ‘encourage the most efficient, economical and environmentally sound development of the electricity industry, consistent with key National and State policies and objectives’. When COAG announced the decision of all Australian governments to

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842 Greater Bendigo City Council, submission no.3, pp.2–3
845 Clean Energy Council, personal communication, 20 January 2010
846 The National Grid Management Council was established to implement the national electricity market reforms. The National Grid Protocol was developed in order to articulate the ‘rules, responsibilities and technical requirements for connecting to the National Grid and participating in trading in bulk electricity through it’: National Grid Management Council, National Grid Protocol, First issue, December 1992, p.i cited in Rowena Cantley-Smith, ‘A Changing Legal Environment for the National Electricity Market’, Climate Change Law: Comparative Contractual and Regulator Considerations 2009, p.20
create a national energy policy framework in June 2001 and to establish a competitive national energy market and the Ministerial Council on Energy (MCE), COAG agreed that one of the national energy policy objectives was to mitigate ‘local and global environmental impacts, notably greenhouse impacts, of energy production, transformation, supply and use.’ Accordingly, the Committee recommends that:

**RECOMMENDATION 9.1**

The Victorian Government through the Ministerial Council of Energy advocate for the National Electricity Market objective to be amended such that it reads: ‘to promote efficient investment in, and efficient use of electricity services for the long-term interests of consumers of electricity with respect to price, quality, reliability, security and environmental sustainability of supply of electricity and the reliability, safety, security and environmental sustainability of the national electricity system’.

Other challenges facing the electricity sector

Increasing the uptake of renewable energy is not the only challenge faced by Victoria’s energy sector. As the Secretary of the Department of Primary Industries, Mr Richard Bolt, informed the Committee:

> We are expecting a major transformation of the energy sector over the next significant period – several decades – and renewable energy will be a large part of that transformation, along with carbon capture and storage, the greater use of gas, and … increased saving of energy but nevertheless in the context of an economy which we expect to keep growing.

It is therefore necessary ‘to consider the integration of renewable energy within the broader set of challenges facing modern electricity industries, where price and technical performance are critical issues as well as energy security, environmental sustainability and enhanced end-use efficiency.’

Indeed, the challenge of integrating renewable energy sources into large scale transmission and distribution systems must take into account such challenges.

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848 Since the Coalition of Australian Governments (COAG) was established in 1992, it has assumed a key role in formulating intergovernmental energy policy and agreements

849 Coalition of Australian Governments (COAG), *Energy Policy Details*, 8 June 2001 cited in Rowena Cantley-Smith, ‘A Changing Legal Environment for the National Electricity Market’, *Climate Change Law: Comparative Contractual and Regulator Considerations*, 2009, p.28; One aspect of the MCE’s role was to provide ‘national leadership so that consideration of broader convergence issues and environmental impacts are effectively integrated into energy sector decision making’; Coalition of Australian Governments (COAG), *Energy Policy Details*, 8 June 2001 cited in Rowena Cantley-Smith, ‘A Changing Legal Environment for the National Electricity Market’, *Climate Change Law: Comparative Contractual and Regulator Considerations*, 2009, p.28

850 Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009

Strategic planning and investing in a more environmentally sustainable grid

The Committee received evidence that the ‘most pressing barrier to be addressed’ in the context of renewable generation ‘will be that of investment in new transmission infrastructure in Victoria’. This section of the report examines issues associated with investing in, and planning for, new transmission and distribution infrastructure for Victoria. It outlines recent developments in transmission network planning and investment models. The chapter considers the role of the Victorian Government in a privatised electricity sector, and recommends that the Department of Primary Industries (DPI) should take a more active role in directing planning and investment for renewable energy infrastructure in Victoria.

Grid infrastructure: transmission and distribution networks

Victoria’s grid infrastructure comprises of a transmission network and a distribution network. The transmission network consists of ‘towers and the wires that run between them, underground cables, transformers, switching equipment, reactive power devices and monitoring and telecommunications equipment.’ The transmission system allows electricity to be converted to high voltages so that it can be efficiently transported over long distances. The Australian Energy Regulator (AER) explains that:

*The NEM transmission network is unique in the developed world in terms of its long distances, low density and long, thin structure. It reflects the often long distances between demand centres and fuel sources for generation. By contrast, transmission networks in the United States and many European countries tend to be meshed and of a higher density. These differences result in transmission charges being a more significant contributor to end prices in Australia than they are in many other countries – for example, transmission charges comprise about 10 per cent of retail prices in the NEM compared with 4 per cent in the United Kingdom.*

The distribution system transmits electricity from the transmission system to customers. The AER explains that distribution systems are necessary because, although electricity moves along transmission networks at high voltages to minimise energy losses, it must be stepped down to lower voltages in a distribution network for safe use by customers.

Figure 9.2 shows the transportation of electricity from generators through the transmission and distribution networks to consumers.
Figure 9.2 Physical electricity flows from generators to consumers

The capacity of Victoria’s grid infrastructure

According to a report produced by Ernst & Young in 2008, Victoria has the ‘best transmission grid infrastructure in Australia, including high-capacity interconnectors to other states.’ Ms Marianne Lourey, Executive Director of Energy Sector Development at the Department of Primary Industries (DPI) informed the Committee that access to transmission assets is ‘generally good’ across Victoria, however there are ‘some remote areas of the state and over time the transmission system will become more heavily utilised’.

Mr John Howarth, Executive General Manager, Transmission Services, at the Australian Energy Market Operator (AEMO), provided the Committee with a more detailed description of the current capacity of the grid to carry wind farm developments in Victoria:

The wind resource in Victoria is abundant along the south coast and around the Ballarat area. The east cost does not appear to be attractive to community interests, and therefore the south-west and around Ballarat appears to be the most effective area to install wind farms. While there is considerable capacity to connect generation in these areas with 220kV transmission lines around Ballarat to Bendigo, Horsham and Terang, we already have a wind farm connected on the Ballarat-Horsham line which takes up a fair bit of the capacity of that particular line. That is the Waubra wind farm at 192 megawatts. The 500kV lines between Geelong and Portland have considerable capacity, but much higher connection costs because of the 500kV capacity.

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856 Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising From Australia’s 20 per cent Renewable Energy Target, November 2008, p.10
857 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
While Victoria has greater grid capacity than other States, Pacific Hydro pointed to the need to consider how future investments in grid infrastructure will be facilitated:

While Victoria currently has robust transmission and distribution networks which will not constrain large-scale renewable energy development in the short-term, in the longer-term a mechanism will be required to facilitate construction of new grid infrastructure, recognising that renewable energy projects must be built at the site of the resource, which is often remote to existing networks.859

Investing in grid infrastructure

Increasing transmission capacity is an expensive and high-risk proposition.860 In Victoria, generators are usually required to pay the costs of any transmission upgrades required in order to supply their energy to consumers, as Ernst & Young explain:

As a general rule, electricity generators do not pay system charges for use of transmission grid infrastructure capacity under the Australian regulatory framework, even though this is a service of value to generators. Generators need only pay for infrastructure required to get a connection to transmission lines, with all costs associated with the existing infrastructure paid for by end-consumers.

However, if a generator wishes to set-up away from existing transmission infrastructure, or where the capacity of this transmission is insufficient to support the amount of the generator’s output, this general rule no longer applies. Generators typically find the cost of paying for substantial additional transmission infrastructure makes their cost uncompetitive against other existing generators, that do not have to pay for use of transmission capacity.861

The Committee received evidence that the cost of grid infrastructure is a significant barrier to investment in renewable energy. The Clean Energy Council (CEC) submitted that:

These costs relate both to the capital cost of the connection and also the legal and time costs for negotiation of contracts. Proponents are required to bear the full cost of transmission upgrades, thereby arguably offsetting the Network Service Provider’s future costs in undertaking such work. This contribution by the industry to the grid network is currently not being recognised.862

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859  Pacific Hydro, submission no.29, p.4
860  Mr P Komor, Wind and Solar Electricity: Challenges and Opportunities, Pew Center on Global Climate Change Solutions White Paper Series, June 2009, p.14; An indication of the costs involved in extending and upgrading the transmission network is provided by the following recent estimates of the investment which is likely to be required in the Victorian and national grids: In the context of advocating an aggressive approach to renewable energy integration, the Victorian Employers’ Chamber of Commerce and Industry (VECCI) has estimated that up to $10 billion could be required by 2030 to upgrade Victoria’s transmission system to fully incorporate renewable generation; The Federal Minister for Resources and Energy has been predicted that network businesses across Australia will need to spend $40 billion on capital infrastructure in the period to 2030; In a planning report released in December 2009, AEMO concluded that the expanded renewable energy target (eRET) and proposed Carbon Pollution Reduction Scheme (CPRS) will require significant extensions to the national energy network, including capital upgrades of $440 million to boost power exports from Victoria to other NEM states; Sources: Victorian Employers’ Chamber of Commerce and Industry (VECCI), Sustainability: Fostering Investment, Innovation and Confidence, VECCI Victoria Summit 2009, p.5; Mr M Ferguson, Federal Minister for Resources and Energy, quoted in Mathew Dunckley, ‘Challenges so Big GFC Pales in Comparison’, The Australian Financial Review, 22 September 2009, p.2 and A Hepworth, ‘Electricity Market Needs Capital Boost’, The Australian Financial Review, 17 December 2009, p.11
861  Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising From Australia’s 20 per cent Renewable Energy Target, November 2008, pp.6–7
862  Clean Energy Council, submission no.22, p.2
According to Ernst & Young, ‘upgrading the capacity of grid infrastructure tends to be prohibitive for renewable energy developers, acting as a major constraint on the number of renewable energy projects that a state can support.863

The question of ‘who should pay’ for the construction of grid infrastructure creates a dilemma for policy makers, which the Victorian Government described in its submission:

_The issue of funding investment in grid infrastructure entails a dilemma for policy makers. Building transmission infrastructure is capital intensive, complex and time consuming and tends to be a stumbling block for renewable energy project developers. Conversely if transmission infrastructure build costs were to be recovered by the [network service provider] from all end-users, this could distort the operation of the market by encouraging generation connections in areas that are inefficient or more expensive than elsewhere._864

The renewable energy sector argued that public sector strategic involvement in infrastructure funding should be considered if Victoria is to reach its renewable energy potential.865 Ararat Rural City Council also advocated for greater public investment in infrastructure for renewable energy. Mr Clyde Humphries, Economic Development Manager, Ararat Rural City Council told the inquiry that ‘our biggest problem is that the Ararat wind farm will probably be the last one that gets built in our region, because the strings of spaghetti starting out from Yallourn have got so thin that there is not enough capacity here to be able to send it back to Melbourne.’866 For Mr Mark Hogan, General Manager, Development Services at Ararat Rural City Council, Victoria’s privatised approach to the augmentation of grid infrastructure is inhibiting the growth of the wind industry in the region:

_Unfortunately in this state there is some fantastic wind resources that exist where there is no grid connectivity at all. One of the main problems is that … under the privatised system we now have there is absolutely no incentive for the owners of the poles and wires to upgrade the system to deal with more projects. As Clyde said, with the spaghetti lines – a system built decades ago for a centralised power-production just simply does not cut it with new technology._

_In looking at where the issues are with wind resources and no grid, it is a massive wasted opportunity that the government needs to tackle. Again, there is no incentive for privatised industry to solve the problem, so the wind companies and those that are generating the power are then left to solve the issue themselves. To use an example, it is like expecting the farmer to grow the crop and then build the road or the rail line to Melbourne to take his product to port._867

However, since the 1990s the Victorian Government has been engaged in a process of reform driven by a philosophy of maximising efficiency by reducing the involvement of the state and increasing the role of the market in electricity supply decisions. In Victoria, electricity generators must pay for any new infrastructure to be built in order to facilitate their connection to the grid. The Victorian Government is of the view that such an approach is necessary to ensure efficient investment by ensuring that existing grid capacity is fully exploited before expensive augmentation work is undertaken.868 Similarly, Mr John Howarth from AEMO asserted that ‘we need to at least

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863 Ernst & Young, 20-20 Vision: Investment Challenges and Opportunities Arising From Australia’s 20 per cent Renewable Energy Target, November 2008, pp.6–7
864 Victorian Government, submission no.21, pp.23–24
865 Clean Energy Council, submission no.22, pp.2–3; NewEn Australia, submission no.17, p.5
866 Mr C Humphries, Economic Development Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August, transcript of evidence, p.115
867 Mr M Hogan, General Manager, Development Services, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August, transcript of evidence, p.116
868 Ms M Lourey, Executive Director, Energy Sector Development, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
reflect the cost of connection back on the proponent so that we get efficient options developed. I do not know that government investment in that area is the right answer, because it may lead to inefficient outcomes.\textsuperscript{869} By contrast, the Committee noted that in South Australia, consumers are responsible for a greater proportion of the costs involved in connecting new generation to the grid.\textsuperscript{870}

A number of participants in the inquiry advocated the implementation of new models of balancing public and private investment in transmission infrastructure for renewable energy generators. These proposals involved initial public investments in building transmission lines to facilitate grid connections for potential 'clusters' or 'hubs' of renewable generators in locations that are remote from the existing network. The investment would be gradually recouped from the generators as they connected to the grid.\textsuperscript{871} Mr Terry Teoh, Executive Manager, Development at Pacific Hydro, argued that:

\begin{quote}
Australia enjoys the position of seeing what is happening globally in terms of new renewable penetration, and there is a wholesale rethink now in the OECD and in the US about governments taking back a measure of control in infrastructure provision, notwithstanding that the liberalisation genie has been let out of the bottle. The sort of measures that are being looked at are really to recognise that there is a greenhouse policy driver in determining market benefits tests for admitting infrastructure augmentation into the public asset base, and particularly for remotely located renewable resources in looking at the governments taking the front-end risk of building backbone transmission lines ... and then recovering that progressively from renewable energy companies that connect onto the grid.\textsuperscript{872}
\end{quote}

However, Ms Lourey from DPI gave evidence to the Committee that government investment in infrastructure 'hubs' for renewable energy 'could result in some very inefficient outcomes':

\begin{quote}
The risk is that you set up a zone in which you need to augment the transmission system and there is obviously a significant cost to do that to accommodate a large renewable energy generation capacity in that area. But it may be a lot cheaper to actually locate them in different parts of the grid where there is existing capacity.\textsuperscript{873}
\end{quote}

While the Committee was receiving evidence in relation to proposals for transmission investment in remote renewable energy 'hubs', the Australian Energy Market Commission was considering similar issues as part of its \textit{Review of Energy Market Frameworks in Light of Climate Change Policies}. In its final report, the AEMC produced a proposal for connecting 'clusters' of renewable generators similar to those recommended by participants in the inquiry. The proposal is described in more detail below.

\textsuperscript{869} Mr J Howarth, Executive General Manager, Transmission Services, Australian Energy Market Operator, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.289

\textsuperscript{870} See chapter 4

\textsuperscript{871} CitiPower and Powercor, submission no.20, p.3; NewEn Australia, submission no.17, p.2; Mr Roger Holloway, Principal Environmental Planner, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.19

\textsuperscript{872} Mr Terry Teoh, Executive Manager, Development, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.19

\textsuperscript{873} Ms M Lourey, Executive Director, Energy Sector Development, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
Strategic planning for additional grid infrastructure

In addition to raising the issue of ‘who should pay’ for new grid infrastructure, a number of participants in the inquiry identified a need for strategic planning in relation to the Victorian transmission and distribution system.874

National transmission planning

Until recently, there was no NEM-wide strategic transmission planning body. However, a National Transmission Planner (NTP), situated within AEMO, has now been established. AEMO is developing a strategic National Transmission Network Development Plan (NTNDP), to be released this year. AEMO describes its vision for network planning as addressing:

- the objectives of Australia’s national electricity law and national gas law;
- the long-term interest of energy consumers;
- the fundamental tenets of Australia’s microeconomic reform; and
- the ‘new’ national goals of sustainability and environmental outcomes.875

The role of the Victorian Government

The role of the Victorian Government in the energy sector has changed as a consequence of the disaggregation and privatisation of government electricity monopolies. Rather than directly managing energy monopolies, the government now sets policy objectives on behalf of the community and manages the new statutory framework governing the energy market.876 The role of government as described in the Energy for Victoria policy statement is:

– to ensure that the mix of competitive suppliers, and the framework of economic and safety regulation continue to deliver the State’s energy policy objectives. The Government does not make investment decisions or underwrite them. Nor does it provide services in its own name...The role of Government, however, continues to evolve. The Bracks Government uses its legislative and funding powers to ensure that competitive energy markets deliver economic, social and environmental outcomes beyond those that the market provides.877

874 WestWind Energy, submission no.30, p.6; Mildura City Council, submission no.35, p.2; Mr Roger Holloway, Principal Environmental Planner, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.15; see also McLennan Magasanik Associates, 'NEM Market Failures and Governance Barriers for New Technologies’, Final Report to Garnaut Climate Change Review, 1 July 2008, p.11

875 Australian Energy Market Operator, National Grid 2030 for a Low Carbon Australia, National Transmission Statement for the National Electricity Market, Vol.1, 2009, p.21. However, AEMO’s strategic planning task as set by the Energy Reform Information Group and endorsed by the Coalition of Australian Governments appears to be more limited, being to ‘collate, analyse and disseminate information and deliver strong and well informed independent advice on efficient investment across the NEM as a strategic plan': Australian Energy Market Operator, National Grid 2030 for a Low Carbon Australia, National Transmission Statement for the National Electricity Market, Vol.1, 2009, p.22


877 Department of Natural Resources and Environment, Minister for Energy and Resources, Energy for Victoria: A Statement by the Minister for Energy and Resources, 2002, pp.7–8
The government thus intervenes in the energy market to implement a consumer safety net, fund energy concessions for low-income consumers, support research and development in new production technologies and creates incentives for improved environmental performance.\textsuperscript{878}

The role of government in the energy sector as explained to the Committee by the Department of Primary Industries (DPI) is to ensure that the appropriate policy and regulatory framework exists to deliver the Government’s energy objectives, including by negotiating changes to the National Electricity rules; to identify and address systemic issues within the Victorian energy sector; and in some cases to intervene where commercial drivers do not exist to deliver on Government policy.\textsuperscript{879}

Rather than being planned by a transmission business or government entity, Victoria’s transmission system is planned by an independent organisation – also the national transmission planner for the NEM. Other states use AEMO as a national planner, while their transmission businesses, which are usually still government-controlled, continue to exercise a planning role within their jurisdiction. By contrast, in Victoria, AEMO plans within the State as well as planning flows of electricity between jurisdictions. Thus, in Victoria, augmentation to the transmission network is directed by AEMO, rather than by a government-owned transmission network services provider.

Comparison between Victoria and other jurisdictions

The Committee was advised of the planning of and investment in transmission infrastructure by some other States in the NEM. The South Australian Government has initiated a feasibility study to consider the various commercial, physical and regulatory issues associated with the construction of new transmission infrastructure to facilitate the connection of wind farms on the Eyre Peninsula.\textsuperscript{880} The Committee was informed that the New South Wales Government has ‘formed a group within government which is working with the Commonwealth, looking at how we can be more proactive’, a process that has led to its precinct approach which attempts to ‘get an effective strategy for getting the connections in there and getting rules that we can sign off with the Commonwealth’.\textsuperscript{881} The Committee was not advised of any similar work undertaken by the Department of Primary Industries in Victoria.

Both South Australia and New South Wales are currently facing more pressing concerns in relation to connecting renewable energy to their electricity networks than Victoria. Victoria has greater network capacity than South Australia and more existing renewable energy generation than New South Wales.\textsuperscript{882} However, the Committee was also advised that there are areas of the Victorian network that are becoming increasingly constrained. The Committee believes that the DPI should take a more proactive and strategic approach in relation to the investments that will need to be made in grid infrastructure in the medium to long-term. The Committee believes that such an approach is open to DPI despite the existence of an independent transmission planner at both the State and

\textsuperscript{878} Department of Natural Resources and Environment, Minister for Energy and Resources, \textit{Energy for Victoria: A Statement by the Minister for Energy and Resources}, 2002, p.8

\textsuperscript{879} Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009; Department of Primary Industries, personal communication, 6 November 2009

\textsuperscript{880} Mr T O’Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner, RenewablesSA, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, transcript of evidence, p.244

\textsuperscript{881} Ms Y Stone, Director of Policy, Planning Systems and Reform, New South Wales Department of Planning, briefing to the Environment and Natural Resources Committee – Melbourne, 31 August 2009

\textsuperscript{882} See Ernst & Young, \textit{20-20 Vision: Investment Challenges and Opportunities Arising from Australia’s 20 per cent Renewable Energy Target}, November 2008, pp.10, 13
NEM levels. Through policy tools such as feasibility studies and working groups with the Commonwealth Government, the DPI could inform State and NEM planning processes in order to ensure that transmission planning decisions are strategic, timely and facilitate the connection of renewable energy generation.

**RECOMMENDATION 9.2**

A strategic long-term approach to planning and investment in transmission infrastructure for renewable energy projects should be adopted by the Department of Primary Industries. The Department of Primary Industries should inform the Ministerial Council on Energy and the Australian Energy Market Operator on what investments in transmission infrastructure would facilitate the uptake of renewable energy generation in Victoria.

The Australian Energy Market Commission proposal for renewable energy hubs

An impediment to the uptake of renewable energy generation in Victoria is the absence of a strategic planning capability and an appropriate funding mechanism for network extensions to remote renewable energy plants. Proponents seeking to build new generation plants are responsible for the costs of any network augmentations required in order to transport the energy they produce to consumers and ensure the stability of the grid under an increased electricity load. However, because renewable energy resources are often located far from existing grid infrastructure, it can be uneconomic for a single market participant to fund these network extensions. There is also no mechanism for taking advantage of economies of scale when multiple generators want to connect to the grid in a similar location. CitiPower and Powercor argued in their submission to the inquiry that their modelling ‘clearly demonstrates that efficiency gains may potentially result from … [their consideration of] several connection applications together, rather than each separately.’ They provided an example in which strategic planning around shared connection for four generation proponents would result in savings of around $12 million.

Mr John Howarth, Executive Manager, Transmission Services, Australian Energy Market Operator explained to the Committee that, ‘we have to get more strategic in the information we provide and the options we provide in terms of putting together a group of proponents to connect at a particular connection point.’ However, the potential to realise economies of scale in connecting multiple generators to the grid creates a ‘conundrum for policy makers’. The practical ramifications of this dilemma were described by Ms Marianne Lourey, Executive Director, Energy Sector Development, Department of Primary Industries as follows:

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883  CitiPower and Powercor, submission no.20, p.5
884  CitiPower and Powercor, submission no.20, p.5
If there is a need, for example, in the north-west of the state, to augment the transmission system for a new generator, who bears the costs associated with that? Do you only augment the transmission system so that it has sufficient capacity for the next renewable energy generator or do you actually augment the system so it can accommodate, say, four new renewable energy generators? If you augment it for four, who pays the difference in the cost between augmenting it for the four and augmenting it for one? How are those costs recovered?886

Victoria has a legislative provision that enables the state government to facilitate the most effective augmentation for the connection of multiple generators, however, the Committee understands that it has not been necessary to invoke it to date.887 Participants in the inquiry made a number of recommendations about adopting ‘energy parks’ and ‘hubs’ that would facilitate the connections of multiple generators.888 These issues were considered by the AEMC in its Review of Energy Market Frameworks in Light of Climate Change Policies. The review concluded that existing NEM arrangements which should enable generators to coordinate multiple connection applications have not been effective.889

In its final report, the AEMC proposed that a new framework be introduced that would coordinate the connection of ‘clusters’ of generators in the same location. The AEMC refers to the new infrastructure required to connect these clusters to the grid as Scale Efficient Network Extensions (SENEs). The AEMC’s proposal is similar to that made by participants in this inquiry. It involves strategic planning of extensions to the transmission network through the advance identification of geographic areas where there is likely to be a number of renewable energy generators. The AEMC’s proposal would also mean that renewable energy generators would be charged for a portion of the total cost of the SENE, based on the number of new generators that it is predicted will connect to the SENE. Customers would be required to pay the costs of the SENE if the predicted connections did not materialise or occurred late.

The AEMC’s proposal has the following features:

- the Australian Energy Market Operator in its role as National Transmission Planner would identify geographic zones where there is the possibility of large economies of scale emerging from multiple generation connections in the same area. The company owning the transmission network in that area would then be responsible for identifying and costing options for extending the grid based on an analysis of expected generation requirements;

- the network would be augmented so that it would have sufficient capacity to connect multiple new generators. Each generator would be required to pay a charge for connection based on their capacity. If all generators connect as forecast, the initial augmentation to the network would be fully funded by generators. However, if not all generators connected as planned, customers would assume the costs of the network augmentation;

886 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009, p.12
887 Department of Primary Industries, personal communication, 6 November 2009
888 CitiPower and Powercor, submission no.20, p.2; NewEn Australia, submission no.17, p.2; Mr Roger Holloway, Principal Environmental Planner, Pacific Hydro, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.19
• the Australian Energy Regulator (AER) would have the power to disallow SENE proposals where it did not consider that they would deliver efficient outcomes based on customer needs; and

• the policy would be reviewed after a period of five years.  

Subject to some minor alterations, the MCE has endorsed the AEMC proposal.

The AEMC proposal for the strategic planning and funding of generation clusters has the potential to address a number of the issues identified by proponents in relation to grid connection for renewable energy generators in Victoria. The Committee understands that the current study being conducted by the South Australian Government on the feasibility of extending the South Australian transmission system to the Eyre Peninsula will trial the SENE concept. However, proponents emphasised that it was difficult to predict how effective the proposed reforms will be as detailed policy and legislative provisions have not yet been released by the AEMC.

The SENE process is likely to result in an increase in the concentration of renewable energy generators in particular localities. However, the Committee noted that the designation of geographic areas as renewable energy hubs or SENEs could occur without reference to considerations such as planning or environmental impacts. As Mr Eoghan McColl, Planning and Building Manager at Ararat Rural City Council, argued, in evidence to the Committee:

*If we go down the path of some model providing increased grid capacity, we at the same time should make sure that we tie up state government and local government planning direction to say that this money is being put into this area, therefore this is actually going to be bumped up as an area of significance. We should use that process to ensure that it is clearly understood by all parties that if we are going to put this money and investment into this area, it is actually going to be there doing something, so you do not leave the community or people coming into the area with no knowledge or understanding that that is the intent for the area.*

Connecting renewable generation to the grid

Barriers to an efficient and economically viable grid connection were identified by stakeholders as key obstacles to investment in renewable generation in Victoria. This section begins by outlining the roles of the various parties involved in the process of connecting renewable generators to the electricity network. Specific obstacles to grid connection, including the current structure and regulation of network service providers and the complicated connection negotiation process are also discussed.

Because of the disaggregated and privatised nature of Victoria’s energy sector, the process of applying for connection to the electricity network is largely treated as a private, albeit highly regulated, negotiation between the generator, privatised network service companies and in the context of transmission infrastructure, an independent network planner.

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892 Pacific Hydro, personal communication, 22 January 2010
893 Clean Energy Council, personal communication, 20 January 2010; Pacific Hydro, personal communication, 22 January 2010
894 Mr E McColl, Planning and Building Manager, Ararat Rural City Council, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2009, transcript of evidence, p.121
Network service providers: transmission and distribution

When the electricity sector was disaggregated, the generation and retail of electricity were opened up to competition. However, this approach is not appropriate for transmission and network service providers, which are natural monopolies. Network Service Providers are natural monopolies because it is more economic for there to be only one set of transmission and distribution infrastructure.

Transmission Network Service Providers

In Victoria, the transmission network is owned by SP Ausnet, while network planning and the direction of network augmentation is the responsibility of the Australian Energy Market Operator (AEMO). The AER regulates transmission network service providers (TNSPs) in order to ‘manage the risk of monopoly pricing.’ The process of determining the revenue of a TNSP begins with the business submitting a revenue proposal to the AER. After a process of consultation, the AER will issue a determination that sets out the maximum revenue a TNSP can earn during a regulatory period, which is usually about five years. While the regulatory process approves funds for capital expenditure on the network, individual projects must also undergo an economic efficiency test when seeking to connect to the grid.

Distribution Network Service Providers

There are five distribution network service providers (DNSPs) in Victoria: CitiPower and Powercor, Jemena, United Energy and SP Ausnet. Victoria’s next regulatory period is from 2011 to 2015. Rather than connecting to the high voltage transmission network, new generators may connect to the distribution system. Typically wind farms up to 100 megawatts will seek to connect to the distribution network, as it is less costly than connecting to the transmission network. Where the connection is to the distribution system, a new generator must make their connection application to the appropriate DNSP, which must use its ‘best endeavours’ to connect the new generator to the network.

The Australian Energy Regulator (AER) assumed responsibility for the economic regulation of Victorian DNSPs on 1 January 2008. The AER determines the total revenue requirements for DNSPs for periods of at least five years.

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899 Australian Energy Regulator, ‘Electricity Transmission’ in State of the Energy Market 2009, p.133. The AER is in the process of developing a new test
902 Mr N Watt, Manager Network Assets, Strategy and Performance, CitiPower and Powercor, Environment and Natural Resources Committee public hearing – Melbourne, 6 July 2009, transcript of evidence, p.24
903 CitiPower and Powercor Australia, submission no.20, p.2
Chapter 9: Connecting to the transmission and distribution network

Issues associated with the nature and structure of network service providers

Renewable energy generators have to connect with a network services provider (NSP) - which could be either a DNSP or a TNSP - although sometimes in order to secure a connection it may be necessary for a generator to negotiate with both the TNSP and a DNSP (for example SP Ausnet and Powercor). According to evidence received by the Committee, the regulatory conditions under which both transmission and distribution network service providers (NSPs) operate, as well as the fact that they are natural monopolies, create obstacles for renewable energy proponents as they attempt to negotiate the connection of their projects to the grid.

The combination of NSPs’ position as natural monopolies and fact that the revenue of NSPs is largely determined by their asset base, which creates the incentive for them to build more infrastructure, underpins a number of issues raised by participants in the inquiry. These issues include a perception of a lack of transparency, power imbalances and information asymmetries between NSPs and generators of renewable energy.

Mr Alex Cruickshank, General Manager of Energy Regulation at AGL gave evidence that because NSPs are monopolies ‘it is very difficult to deal with them because there is an imbalance in the power relationship’. According to Acciona Energy, ‘significant market power rests with monopolistic Transmission Network Service Providers creating an imbalance between the proponent and TNSP during commercial and other negotiations and dealings.’ Proponents are required to bear the full cost of transmission upgrades, which the Clean Energy Council argued offsets the NSP’s future costs in undertaking such work.

In addition, the regulatory framework of NSPs makes them risk averse. Acciona Energy submitted that ‘the risk profile of … TNSPs appears to be very restricted under their operating licences which is reflected in such parties accepting zero commercial and financial risk associated with the delivery of their component of renewable projects’. The consequence is that the entire risk profile of connection to the grid lies with generation proponents.

The renewable energy industry also argued ‘there needs to be greater transparency in costs mandated by transmission network service providers.’ The Clean Energy Council drew the Committee’s attention to the perception amongst generators that renewable energy technical requirements being prescribed by NSPs are ‘excessive for purpose’.

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905 Mr A Cruickshank, General Manager, Energy Regulation, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.52–53
907 Mr A Cruickshank, General Manager, Energy Regulation, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.53
908 Acciona Energy, submission no.33, p.6
909 Clean Energy Council, submission no. 22, p.2
910 Clean Energy Council, submission no.33, p.6
911 Clean Energy Council, submission no.22, p.2
912 Clean Energy Council, submission no.22, p.3
913 Clean Energy Council, submission no.22, p.2
NSPs are funded on the basis of the book value of their assets. As a result expensive, over engineered and inflationary priced infrastructure assets are often prescribed. Appropriate infrastructure could easily be provided for less outlay. This would ultimately assist in keeping prices lower for the electricity consumers.914

Similarly, the renewable energy company, Acciona Energy, stated in its submission that:

Costs of connection can be well in excess of what should be achievable. Acciona Energy has direct experience of increases to project connection costs (from the TNSP) exceeding 70 per cent of the original estimate by the TNSP as the project has progressed, with little justification underpinning the increase. Such increases can have a substantial impact on project viability and are difficult to avoid once a developer is committed to the delivery of the project.915

According to Acciona Energy, 'time frames for connection also tend to be ... well in excess of what should be achievable.'916

The Australian Energy Market Commission (AEMC) has recently conducted a review into the provision of distribution network services. It released the final report of its *Review of National Framework for Electricity Distribution Network Planning and Expansion* in September 2009. The AEMC recommended that the annual planning requirements for the NEM should encompass planning ‘for all assets and activities carried out by DNSPs that would materially affect the performance of the network... This would include planning activities associated with replacement assets and the provision of negotiated services.’917 The final report recommended that each DNSP should produce an annual planning report for at least five years into the future. The report would include capacity and load forecasts for each distribution network. The report would include detailed information on systems limitations and regional development plans. DNSPs would also be required to report on their planning methodologies, provide a summary explanation of their asset management practices, performance standards and compliance against those standards.

The Committee believes that the proposals made by the AEMC with respect to annual planning requirements for DNSPs have positive implications for the renewable energy industry, as they will provide increased transparency and information for renewable energy generators as they plan and negotiate their grid connections. However, it is unlikely that AEMC’s proposal will wholly address the current power imbalances and structural tensions which act as impediments to the connection of renewable generation to the distribution network.918

Information asymmetries, power imbalances and risk-averse approaches to grid connection on the part of NSPs are a feature of the structure of Victoria’s energy sector. While the problems are easy to identify, the solutions are harder to formulate. There was a general recognition amongst stakeholders contacted by the Committee that, in the words of one individual, ‘it is never fun negotiating with a monopoly’.919 In some cases, generators of renewable energy suggested to the Committee that the issues they had identified were intractable.920 As a consequence, despite following up a number of the submissions made to the inquiry, the Committee was not presented

914 WestWind Energy, submission no.30, p.6
915 Acciona Energy, submission no.33, p.6
916 Acciona Energy, submission no.33, p.6
918 Clean Energy Council, personal communication, 20 January 2010
919 Clean Energy Council, personal communication, 20 January 2010
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with targeted, detailed or widely supported proposals for policy reforms that would address the current impediments to grid connections of renewable power in Victoria.

Facilitating the connection process

The Committee received evidence from the renewable energy industry that the process for negotiating connection to the transmission and distribution network in Victoria is unnecessarily complicated, costly and long in duration. Vestas argued that ‘the process of connecting a wind farm to the distribution network and/or the transmission network is onerous and poses a significant barrier to new wind farm developments.’ WestWind Energy observed in its submission that ‘there is no proactive, strategically planned approach to connecting projects to the grid.’

Participants in the inquiry informed the Committee that the process was complicated by the number of entities involved in the connections process, as well as their conflicting requirements. The Clean Energy Council (CEC) submitted that:

> The complexity of negotiation of the contracts is exacerbated by the number of parties involved in negotiations. An example provided by one proponent advised that for a contract for a 220kV or 500kV substation connection with a 66kV or 132kV distribution line negotiation needed to occur with Powercor, SP Ausnet, former VENCorp, the project proponent and lawyers. To further exacerbate the problem, there is also inconsistency in requirements between VENCorp and SP Ausnet ...

According to Acciona Energy:

> The process involves dealing with two parties, former VENCorp and SP Ausnet, rather than a single entity. These two parties do not act with a uniform voice on common issues and when combined with the number of people, information and negotiations required to satisfy requirements, there are substantial delays to project implementation, commencement of construction and ultimately renewable power generation.

Mr Alex Cruickshank, General Manager of Energy Regulation at AGL, provided an overview of the challenges involved in negotiating a connection to the grid, as follows:

> Under the national electricity market rules we have to connect to the local network service provider. That has to be done prior to registration, and in a lot of cases prior to the licence has been issued for generation. Currently we have to deal with a number of network service providers. In theory under the rules the first person we contact should in fact provide all the necessary liaison with the other network service providers, but in fact in Victoria that is not the case. Because of the split nature of SP AusNet to former VENCorp we have to deal with both parties separately. In fact the way they operate we have to deal with the distribution network services provider, often again as a third separate party.
The Department of Primary Industries (DPI) believes that some of the confusion experienced by wind farm proponents arises out of differences in the structure of Victoria’s energy sector, as compared with other states. As outlined in chapter 3, Victoria is unique in that it has an independent transmission planner. The role of planning and procuring augmentations to the transmission network in Victoria is currently being performed by AEMO and was previously undertaken by VENCop. However, it is the Committee’s understanding that in practice, in the past, project proponents have tended to approach the transmission service provider, SP AusNet directly, as their initial point of contact for negotiating a connection, as opposed to first engaging with VENCop/AEMO. Project proponents have often only engaged with VENCop/AEMO after protracted discussions with the transmission service provider.

According to DPI, AEMO has been active since July 2009 in establishing itself as the single facilitative entity for connection queries. It offers proponents the option of carrying out the network augmentation process themselves; an AEMO facilitated process in which AEMO, as the ‘middle man’ obtains comparative bids for the augmentation from different transmission infrastructure providers; or a process by which SP AusNet undertakes the assessment and augmentation process. The Committee understands that members of the industry are positive about the increased flexibility offered by AEMO’s new approach.

In order to address any confusion arising from Victoria’s unique ‘plan and procure’ model of transmission augmentation, DPI has informed the Committee that it is considering producing a set of grid connection guidelines that would explain the operation of the Victorian system to proponents. According to Ms Marianne Lourey, Executive Director of Energy Sector Development at DPI:

*Because arrangements are slightly different in Victoria to the other states, for those people who are not familiar with them it is very difficult to understand the role of SP AusNet versus the role of AEMO. So there is work at the moment to improve the information that is provided to proponents so that they can understand those processes.*

The Committee understands that these guidelines are at the development stage. The Committee supports the development of guidelines that would provide renewable energy proponents with a clearer understanding of the operation of the connection process in Victoria. However, the Committee believes that guidelines alone will not be sufficient to address the concerns raised by the renewable energy industry in relation to the grid connection process.

The current issues experienced by the industry are not only the result of its lack of understanding of the connection process, but to some extent a consequence of the structure of the energy sector in Victoria. This includes the requirement that proponents negotiate with multiple parties with different requirements and agendas, as well as the power imbalances and information asymmetries that

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928 Department of Primary Industries, personal communication, 6 November 2009  
929 Department of Primary Industries, personal communication, 6 November 2009  
930 Acciona Energy, personal communication, 28 January 2010  
931 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009  
932 Ms M Lourey, Executive Director, Energy Sector Development, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009  
933 Department of Primary Industries, personal communication, 6 November 2009  
934 Clean Energy Council, submission no.21, p.2; Acciona Energy, submission no.33, p.5; Mr A Cruickshank, General Manager, Energy Regulation, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.52–53
result from the natural monopoly status of network service providers and their limited risk profile under their operating licences.\textsuperscript{935}

In addition, the particular needs of the renewable energy industry mean that it requires more active facilitation of network connections than traditional power stations. For example wind farm proponents operate on an iterative planning model, in which they continually revise the parameters, technology and location of their project to optimise returns. For wind farm proponents, grid connection is a project parameter that is subject to change as their project develops, in order to take advantage of other opportunities, minimise constraints and respond to changes in the operating environment. An example of the sorts of issues encountered by the wind farm industry, as a consequence of the current structure of the connection process was provided by Mr Chris Sweatman, Chief Operating Officer of Renewable Energy Systems (RES) Australia in evidence to the Committee:

\textit{The approach taken in Australia is the grid connection studies will take you nine months or so – at least $500,000 of studies. They need to be turbine model specific. You are in a dilemma: do you go for your grid studies and then receive a connection offer with a 60-day acceptability window prior to having your consent for actually constructing the wind farm, or post, which means that you are potentially, when you do not know how long the consenting process will take, having to connect a turbine which is currently available and which you hope will be available once you get your consent which then also fits in with the timing of your grid connection.}\textsuperscript{936}

The Committee understands that there is a perception amongst the renewable energy industry that AEMO and network service providers lack flexibility in that there is no incentive for them to work with wind farm proponents to generate an optimal solution.\textsuperscript{937} In the view of the renewable energy industry, AEMO and the NSPs approach their role as limited to assessing connection applications, rather than assisting proponents to understand the process and maximise its efficacy.\textsuperscript{938}

Acciona Energy argued, in its submission to the inquiry, that the process of connection to the distribution network in Victoria contrasted unfavourably with that of New South Wales. As opposed to the process in Victoria, where DNSPs conduct the analysis of the most appropriate way to connect:

\textit{Our experience in NSW, with similar projects has been considerably better. Country Energy will allow (and in fact require) the proponent to undertake the majority of the work [of analysing connection requirements] as their representative. This allows the proponent to take control of the project and resource it to meet overall timing requirements.}\textsuperscript{939}

The Clean Energy Council also submitted that the cost of grid stability modelling work is prohibitive, advising that the cost of obtaining a preliminary offer to connect to the grid from an NSP is now nearing $500,000 and can take up to nine months to complete. Instead, the CEC proposed that third party engineering consultancies should be able to complete this work on the part of proponents.\textsuperscript{940} Another possibility, suggested by McLennan Magasanik Associates (MMA) would involve the production by an independent network planning body of annual statements that provide transparent

\begin{footnotesize}
\begin{enumerate}
\item See Acciona Energy, submission no.33, p.6; Clean Energy Council, submission no.22, p.2; Mr A Cruickshank, General Manager, Energy Regulation, AGL, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.53
\item Mr C Sweatman, Chief Operating Officer, Renewable Energy Systems Australia, Environment and Natural Resources Committee public hearing – Ararat, 24 August 2007, transcript of evidence, p.147
\item Clean Energy Council, personal communication, 20 January 2010
\item Clean Energy Council, personal communication, 20 January 2010
\item Acciona Energy, submission no.33, p.7
\item Clean Energy Council, submission no.22, p.3
\end{enumerate}
\end{footnotesize}
costs for network augmentation. The Committee noted that the AEMC has recently recommended that DNSPs should produce annual planning reports for at least five years into the future. These annual planning reports could provide a useful forum for estimating the costs of augmenting their networks.

The Committee believes that there is value in investigating such approaches as well as other measures that could provide renewable energy generators with greater information and ability to influence the timeliness and evaluate the costs of connection to the grid. AEMO has recently introduced a more flexible approach in relation to the options available to generators in augmenting the transmission network and the Committee believes that a similar approach should be taken in relation to distribution network connections.

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<th>RECOMMENDATION 9.3</th>
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<td>The Department of Primary Industries identify and address obstacles experienced by generators of renewable energy connecting to the Victorian distribution network, including by investigating the following:</td>
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<tr>
<td>(a) requiring distribution network service providers to publish estimated costs for network augmentation in their annual planning reports;</td>
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<tr>
<td>(b) providing renewable energy proponents with the option of engaging third party engineering consultancies to undertake grid connection feasibility studies on their behalf; and</td>
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<tr>
<td>(c) enabling renewable energy proponents to act as the representative of distribution network service providers in project managing the augmentations to the network that their projects require.</td>
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In its submission to the inquiry, Acciona Energy advocated the establishment of a single body that would allow the proponent to gain a clear understanding of the full connection process, regulatory obligations and ultimately costs and timing in the early stages of the project. Similarly, the CEC recommended that a single connection mediation facilitation entity be established which would negotiate to provide clear costs and time frames early in the process in an expedited fashion. Industry representatives also expressed a preference for greater government engagement with the connection process in order to facilitate the timely and transparent connection of renewable energy projects to the grid. The Committee noted that a recent restructure within the DPI –

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943 AEMO offers proponents the option of carrying out the network augmentation process themselves; an AEMO facilitated process in which AEMO, as the ‘middle man’ obtains comparative bids for the augmentation from different transmission infrastructure providers; or a process by which SP AusNet undertakes the assessment and augmentation process. The Committee understands that members of the industry are positive about the increased flexibility offered by AEMO’s new approach
944 Acciona Energy, submission no.33, p.5
945 Clean Energy Council, submission no.22, p.5
946 Clean Energy Council, personal communication, 20 January 2010
Chapter 9: Connecting to the transmission and distribution network

– has established the Energy Sector Development (ESD) Division with a key responsibility to facilitate energy investment in Victoria. This facilitative role ... [will consider] broad investment opportunities and ... [assist] to facilitate timely resolution of systemic issues through market-based processes. 947

The Committee believes that the DPI needs to take a more proactive approach to the processing of renewable energy grid connection applications at the project level. The process of securing connections to the network is a major impediment to investment in renewable energy. There is a need for the DPI to address those obstacles to grid connection that result from the structure and operation of Victoria’s privatised energy sector. In addition, a more active ‘project management’ approach to the connection process would assist new renewable energy companies – such as geothermal and marine energy proponents. It would also accommodate the more iterative and flexible approach taken by the renewable energy industry to the development of their projects by enabling better coordination between planning and network connection processes.

As discussed in chapter 5, the Committee believes that coordination between agencies and the accountability of state government departments can be improved through the appointment of departmental Project Managers. In the view of the Committee, the role of such Project Managers should include active coordination with the Energy Sector Development Division of DPI and the Australian Energy Market Operator (AEMO), as well as regular communication with relevant network service providers.

**RECOMMENDATION 9.4**

The role of renewable energy departmental Project Managers should include active coordination with the Energy Sector Development Division of the Department of Primary Industries and the Australian Energy Market Operator, as well as regular communication with relevant network service providers to facilitate grid connections and to better integrate the grid connection planning approval processes.

Connecting distributed energy generation to the grid

Much of the evidence received by the Committee in relation to the issue of connecting renewable generation to the electricity network concerned issues associated with low emission distributed energy generation. Distributed generation –

– comprises smaller power plants generally located close to markets, thereby reducing network costs and losses and security risks.

*Most distributed generation is based on renewable and cogeneration technologies, and often based on local resources. Cogeneration plants produce electricity and process heat with high conversion efficiencies of more than 70 per cent.*

*Distributed generation plants generally have low environmental impacts including low greenhouse gas emissions and toxic air emissions. They also have the potential to stimulate substantial regional employment and economic activity.* 948

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947 Victorian Government, submission no.21, p.25
Distributed generation is also often referred to as ‘embedded generation’. This chapter focuses on the central service hub form of distributed generation. Central service hubs generate electricity and take advantage of the heat which electricity generation produces. The heat can be used to warm buildings, provide hot water for industrial applications. Trigeneration units can also provide cooling for use in temperature control or refrigeration. Central service hubs can serve individual buildings, small precincts or a district.

According to the CSIRO, distributed energy systems ‘offer the least cost, low CO₂ option for electricity capacity growth ... by providing energy (electricity, heat and cooling) and improved efficiency at the point of use in industrial, commercial and residential applications, avoiding the need for costly transmission and distribution network upgrades and new large centralised generation assets’. The City of Greater Bendigo argued in its submission to the inquiry that ‘distributed generation opportunities in regional areas would assist in minimising energy transportation losses and contribute towards lessening the increasing network price inequities between regional and metropolitan areas.’ The City of Melbourne submitted that ‘there is significant distributed generating capacity in urban areas from renewable and low-carbon sources’.

The use of central service hub systems is well established in European countries such as the Netherlands and Denmark. The Northern Alliance for Greenhouse Action (NAGA), a coalition of nine northern metropolitan councils and the Moreland Energy Foundation, informed the Committee that the costs for cogeneration and trigeneration technologies are becoming ‘increasingly attractive’. Darebin Council submitted that ‘many local governments are interested in supporting cogeneration’. However, according to the CSIRO, ‘Australia lags behind the world in the introduction of low emission distributed energy systems’.

A number of the impediments to the uptake of distributed generation in Victoria are derived from the structural issues discussed above in relation to distribution network service providers (DNSPs), including the conflicts that are inherent in their role as both network planner and owner. Most distributed generation proponents seek to connect to the distribution system, as the City of Melbourne explained in its submission to the inquiry:

Connecting to the distribution network allows the sale of electricity to the grid when the electricity generated surpasses the energy consumed by the building/facility. This facility can be useful in supplementing peak load demands and providing back-up in the event of network power outages.

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948 Department of Natural Resources and Environment, Minister for Energy and Resources, Energy for Victoria: A Statement by the Minister for Energy and Resources, 2002, p.37
949 City of Melbourne, submission no.34, p.2
951 City of Greater Bendigo, submission no.3, p.4
952 City of Melbourne, submission no.34, p.1
953 City of Melbourne, submission no.34, p.2
954 Northern Alliance for Greenhouse Action, submission no.23, p.2
955 Darebin Council, submission no.11, p.2
957 City of Melbourne, submission no.34, p.4
The final report of the *Garnaut Climate Change Review* observed that a key structural issue impeding the uptake of distributed and embedded generation opportunities is that –

- distribution businesses receive revenue based on the value of the asset base, creating the incentive to build more distribution infrastructure. Rewarding embedded generators for the benefits of deferred network augmentation is in direct conflict with this arrangement.958

Historically, the incentive for DNSPs has generally been to increase their assets – as opposed to finding efficiency solutions.959 Energy consultants McLennan Magasanik Associates (MMA) have argued that there is an incentive for DNSPs to impede access to embedded generation as the presence of such generation may reduce the need for the network augmentation that underpins their revenue stream.960 According to Ceramic Fuel Cells, a company which makes electricity generation units for households using a highly efficient process to produce electricity and heat from natural gas:

> There is a lack of incentives for transmission and distribution businesses to encourage significant distributed generation. While distributed energy would yield significant benefits for the transmission and distributed sector (such as reduced capital expenditure) in general terms the sector gets a fixed rate of return on capital and therefore, acting rationally, distributors will seek to increase their capital expenditure. Technologies which can provide significant public benefits may be under-valued because each private ‘actor’ in the market does not have an incentive to capture the value of those benefits.961

This situation is compounded by an asymmetry in the information held by DNSPs as compared with proponents of embedded generation in that only network service providers can ascertain the benefits of embedded generation to the network.962 In addition, according to the Victorian Employers’ Chamber of Commerce and Industry (VECCI), proponents of embedded generation are charged with augmenting power in stressed network areas and not paid for improving network stability.963

An example of how small structural impediments to the uptake of embedded generation operate in practice was provided by Mr Brendan Dow, Managing Director of Ceramic Fuel Cells. Mr Dow explained that the fuel cells his company produces, and which could be installed in households and commercial buildings, have the capacity to provide power back to the grid at times of peak demand, thereby reducing the need for expensive grid augmentation. However, according to Mr Dow, the structure of the energy market results in perverse incentives that are inhibiting the recognition of the value of his company’s technology. Network companies are currently structured to ‘spend more money – capital expenditure – to put in more power substations, more poles and wires, because they receive a return on the investment that they make’. By contrast, it is difficult to economically value the benefit of the contribution that Ceramic Fuel Cell technology would make to the grid in times of peak demand.964

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961  Ceramic Fuel Cells, submission no.2, p.3
964  Mr B Dow, Managing Director, Ceramic Fuel Cells, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.40–41
The Committee believes it is likely that regulatory reform of DNSPs is required in order to achieve the wholesale changes in the distribution system that are necessary to make the transition to a decentralised, energy efficient, demand-sensitive grid that accommodates renewable energy generation. The Garnaut Climate Change Review observed that reform of the current regulatory framework for distribution businesses would provide the most comprehensive solution to the challenges associated with connecting distributed generation. However, the review also concluded that ‘the existing regulatory frameworks are the result of many years of reform’ and therefore wholesale changes may not be achievable in the short-term.965

The Committee is aware that a significant reform process is underway at the Coalition of Australian Governments (COAG) and Ministerial Council on Energy (MCE) level in an effort to address current regulatory and market impediments to the connection of distributed generation. This includes:

- The implementation of a national framework for the regulation of distribution companies, which came into effect on 1 January 2008. The national framework includes the requirement that the Australian Energy Regulator (AER) assess whether DNSPs have included distributed generation in their company forecasts, as well as implementing a demand management incentive scheme.966
- A Review of Demand Side Participation in the National Electricity Market is currently being conducted by the AEMC.967 One of the review reports found that there are a number of aspects where the national energy rules could be improved to enhance the position of demand side participation968 including the strengthening of incentives for DNSPs to provide more cost effective connections for embedded generators.969
- The release by the AEMC of the final report of its Review of National Framework for Electricity Distribution NetworkPlanning and Expansion in September 2009. The AEMC recommended that the annual planning requirements for the NEM should encompass planning ‘for all assets and activities carried out by DNSPs that would materially affect the performance of the network’970 as discussed earlier in this chapter;
- The implementation of reporting requirements should increase transparency and act to ameliorate some of the information asymmetries that currently exist between DNSPs and generators by enabling generators to independently assess factors such as network constraints.971

966 Department of Resources, Energy and Tourism, personal communication, 25 January 2010
967 ‘Demand side participation’ is defined by the Australian Energy Market Commission as follows: ‘The demand side is made up of all the households and businesses who routinely consume electricity. The decisions on when, and how much electricity to consumer represents their participation in the electricity market’. Australian Energy Market Commission, Q&A: Review of Demand-Side Participation in the National Electricity Market Stage 2 Final Report, p.2
969 Australian Energy Market Commission, Q&A: Review of Demand-Side Participation in the National Electricity Market Stage 2 Final Report, p.1
971 Department of Resources, Energy and Tourism, personal communication, 25 January 2010
• COAG’s National Energy Efficiency Strategy reform process will ‘seek to maximise the potential for the application of cogeneration, trigeneration and other distributed generation technologies that have the potential to increase energy efficiency.’

The aim of these reforms is to make DNSPs neutral as to whether they invest in network or non-network solutions, such that their decisions are based purely on which option is more efficient. The reviews conducted through the MCE have identified a number of recommendations aimed at addressing the issues raised by stakeholders in relation to the structural impediments to the uptake of renewable generation. A full examination of the nature and extent of reforms necessary to address current technical and economic impediments to the uptake of renewable energy is beyond the scope of this inquiry and would duplicate processes already occurring at the MCE level. However, the Committee has considered the extent to which the Victorian Government should facilitate the connection of distributed generation through actions outside the NEM framework that would assist in addressing information asymmetries and gaps in expertise in relation to the connection of distributed generation.

Given the significant benefits associated with distributed generation, the Committee has concluded that the Victorian Government should develop a strategy to encourage its uptake across the State. Current policies only consider distributed generation peripherally or in the context of providing funding for discrete projects, rather than seeking to comprehensively address the current barriers to its installation across the State.

In late 2009, the Victorian Government instituted a Climate Communities program that provides funding to promote and support community initiatives that reduce emissions and adapt to the impacts of climate change. The program, which will be coordinated by Sustainability Victoria, will ‘help communities with expert advice, research and information and grants for local initiatives’. As an example of such a community based initiative, the Government refers to the Mount Alexander Sustainability Group’s Mains Power Project: ‘a groundbreaking partnership with major local employers to cut their emissions by 30 per cent by 2010 through initiatives such as the installation of cogeneration units or the purchasing of renewable energy.’ The Committee noted the Climate Communities program has the potential to assist community efforts to introduce distributed and embedded generation. Nevertheless, the Committee believes that in order to ensure the uptake of distributed generation across Victoria, a more systematic approach is required.

The Committee received evidence that the complex technical and approvals process for connecting distributed generation creates ‘barriers’ and ‘pitfalls’ that are ‘extremely difficult to navigate’. Darebin City Council argued that the complexity of the approvals process is the cause of the lack of newly commissioned cogeneration plants by Victorian local governments.

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973 Department of Resources, Energy and Tourism, personal communication, 25 January 2010
974 The program will provide $10 million in new funding over three years. $13.32 million of existing program funding will be ‘brought within the Climate Communities framework’: Victorian Government, Climate Communities: A Victorian Government Initiative to Promote Voluntary Action on Climate Change, 2009, p.6
976 Victorian Government, Climate Communities: A Victorian Government Initiative to Promote Voluntary Action on Climate Change, 2009, p.3
977 Darebin Council, submission no.11, p.2
978 Darebin Council, submission no.11, p.2
Given the complexity of the current connection requirements, the likelihood that many local governments and businesses exploring the potential for distributed generation will face similar issues, and the benefits in terms of energy security, efficiency and environmental sustainability associated with facilitating embedded generation, the Committee has concluded that there is a role for the DPI in facilitating the connection process for distributed generation. This role should include fostering the expertise necessary to encourage the uptake of embedded generation across local government and business. The NAGA submitted that Australian expertise in developing cogeneration and trigeneration plants is limited.\footnote{Northern Alliance for Greenhouse Action, submission no.23, p.2} Darebin Council has criticised the Victorian Government on the basis that it has not fostered efforts by local communities to engage with distributed generation options: ‘Sustainability Victoria currently prioritises support for a small number of leading edge projects, the details of which are often commercial in confidence preventing the spread of knowledge and progress in this area.’\footnote{City of Darebin, submission no.11, p.2}

The City of Melbourne submitted that the significant costs imposed by DNSPs for feasibility studies of grid connection can make distributed energy uneconomic for some proponents:

\begin{quote}
To connect a proposed renewable energy facility to the grid, the distribution company must be satisfied that the proposed installation will not exceed the network’s design capacities in that locality. This is a particular concern for turbine powered facilities (such as those powered by natural gas, biomass or wind). Technical studies must be undertaken to assess whether the network is capable of taking distributed power facilities in a particular locality and often several studies need to be undertaken. These studies are undertaken by the utility on behalf of the proponent for a fee of around $15,000 payable irrespective of outcome. A further technical study is usually undertaken by technical consultants to the proponent.

These network studies must be undertaken [to] establish whether a connection to the distribution network is possible. There is usually no indication from the outset as to whether a connection to the network will be viable. These costs are a significant disincentive to proponents…\footnote{City of Melbourne, submission no.34, pp.5–6}
\end{quote}

According to local councils, State Government could assist local government and business in planning and scoping distributed generation projects by providing guidelines supported by a series of template documents. The Committee believes that such guidelines would assist local government, businesses and other organisations so that each proponent would not have to ‘reinvent the wheel’ when determining the feasibility of distributed generation and navigating the approvals process.
Accordingly, the Committee recommends that:

**RECOMMENDATION 9.5**

The Department of Primary Industries develop a strategy to facilitate the uptake of distributed energy generation in Victoria. The strategy should:

(a) address the various barriers relating to the connection of distributed power networks to the distribution grid;

(b) include studies of network constraints in areas where there is a high concentration of commercial and institutional development to assess the feasibility of grid connections to distributed power generators;

(c) include guidelines for scoping, installing, connecting and maintaining distributed generation for use by local governments, business and other organisations; and

(d) facilitate the planning of and investment in clusters of distributed generation in the electricity network.

The future of the transmission and distribution network: smart grids

A smart grid is the application of information and communications technology to improve the efficiency and effectiveness of the generation, transmission and distribution, and usage of power. According to the CSIRO, electricity grids ‘will need to become ‘smarter’ in order to cope with intermittent generation, increasing demand, and the need for more information about the availability and consumption of energy.’ The Commonwealth Department of the Environment, Water, Heritage and the Arts states that:

> Smart grids have the potential to transform the way we use energy in our homes and businesses. A smart grid can identify and resolve faults on the electricity grid, automatically self-heal, manage voltage and identify infrastructure that requires maintenance. Smart grids can also help consumers manage their individual electricity consumption and enable the use of energy efficient ‘smart appliances’ that can be programmed to run off-peak power.

A less centralised and more responsive grid would facilitate the connection of renewable energy, which is likely to be distributed and can be intermittent – characteristics that can make the integration of renewable energy into the existing grid difficult.
A smart energy network would incorporate features such as:

- Communications networks;
- Digital sensors and controls for remote monitoring and operation;
- Tools for grid planning, design and operation to simulate, plan and automate complex transmission and distribution operations;
- Better ways to connect equipment such as advanced storage, improved transformers and superconducting wires;
- Advanced meters to collect usage data electronically and automatically;
- Load management and demand response technologies that help reduce peaks in electricity demand and thereby reduce the need for standby power plants; and
- Devices ranging from motors to heating, ventilating and air condition systems to home appliances with embedded intelligence which will provide end-users with a greater capacity to manage their own energy use.986

Instead of adjusting the supply of electricity in response to shifts in demand, a smart grid would have the capability to alter demand as well.987 As opposed to the current centralised energy system, in which electricity largely flows one way – from generators to consumers – a smart grid would facilitate a two-way flow of energy and information between suppliers and consumers of energy.988 While historically consumers have received information about their energy usage in bills received weeks after consumption, a smart grid would give energy consumers greater information about and control over their use of electricity.989 This is referred to as ‘demand management’ and ‘demand side participation’.

Consumer choices about energy would be facilitated through the introduction of smart meters, which ‘establish a two-way data connection between the consumer and the power company, by sending information over a communications network that may include power-line, radio or cellular network connections’.990 Smart meters are designed to enable utilities to vary the price of electricity throughout the day in response to demand. Utilities could thus better manage energy flows by increasing the price of electricity in times of high demand, encouraging users to reduce their energy consumption until demand has fallen again. In addition to improving the stability of the system, smart grids could thus postpone or reduce requirements to construct new generation.991

The Victorian Government has implemented measures that will assist in the transition to a smart grid. Victoria is the first Australian State to commit to the introduction of smart meters into all households and small businesses. Installation into 2.2 million homes and 300,000 businesses commenced in September 2009 and is scheduled for completion in December 2013. In addition, the Government will fund research and development of energy storage technologies. The Council of Australian Governments (COAG) and the Ministerial Council on Energy (MCE) have committed to a staged approach for a national smart meter ‘rollout’ (where the benefits outweigh the costs) and to develop a national framework to support the adoption, use and further trialling of smart meter infrastructure.

By decentralising the provision of energy and enabling demand-management, a smart grid would be more efficient than current grid infrastructure which, according to one estimate, loses up to 10 per cent of energy in the delivery of electricity. However, realising the potential of smart grids requires a ‘seismic change’ in Australia’s energy sector. The current uni-directional, supply-oriented, and largely coal-fired energy sector would be required to transition to a decentralised, demand-responsive grid that incorporates a variety of generation and energy efficiency options. According to the Victorian Employers’ Chamber of Commerce and Industry, $50 billion would be required to establish smart transmission and distribution infrastructure in Australia.

The transformation would be costly in terms of investment, but could result in economic benefits as a consequence of enhanced efficiency. In Smart Grid, Smart City: A New Direction for the Energy Era, the Department of the Environment, Water, Heritage and the Arts (DEWHA) states that ‘Australian smart grid deployment is in its early stages’, however, ‘robust programs for many smart grid elements such as smart meters, Time of Use and other pricing trials and distributed generation have already started in Australia’. The Federal Government has committed up to $100 million for the development and implementation of a

992 Department of Planning and Infrastructure, ‘Advanced Metering Infrastructure for Victoria’, accessed 15 January 2009
998 Victorian Employers’ Chamber of Commerce and Industry (VECCI), Sustainability: Fostering Investment, Innovation and Confidence, VECCI Victoria Summit 2009, p.4
999 Access Economics has estimated that by investing $3.2 billion in smart grid technology over five years, Australia could cut its electricity use by 4 per cent and increase gross domestic product by up to $16 billion over 10 years: Mr M Dunckley, ‘Challenges So Big GFC Pales in Comparison’, The Australian Financial Review, 22 September 2009, p.2
fully integrated smart grid at commercial scale through the National Energy Efficiency Initiative.  

The project will provide a comprehensive dataset about the potential benefits of smart grid appliances, network improvements and technological efficiencies whilst offering details on the effects of greater knowledge about energy consumption on consumer behaviour. It is anticipated that interim data and results will be made available publicly over the course of the project to disseminate lessons to other electricity networks that are developing smart grids and to assist the industry with the development of smart grid technologies.

Smart Grid Australia, a group consisting of representatives of industry, research and government, argues that ‘unless the regulatory environment is conducive to smart grids, utility companies may be slow to implement best practice in this area due to the cost implications involved.’ It contends that ‘a national approach to smart grid regulation – facilitated by the Australian Energy Regulator and the Australian Communications and Media Authority – is crucial to the successful development and deployment of smart grids in Australia.’ Smart Grid Australia advocates an approach similar to that adopted in the United States, which has incorporated into its energy legislation provision for the modernisation of the electricity network to create a smart grid, energy security and energy conservation.

DEWHA agrees that ‘regulatory issues may impede an Australia-wide smart grid deployment’. However, the Smart Grid, Smart City program should, it contends, identify any critical regulatory barriers to wide scale deployment of a smart-grid, enabling recommendations for change to be made to the MCE and a formal AEMC review of market policy to be instituted if necessary. In addition, the Federal Minister for Infrastructure and Regional Development has launched an inquiry into smart infrastructure in late 2009. The inquiry will examine the potential for ‘smart infrastructure’ in the transport, communications, energy and water sectors.

As discussed above, smart grid technology enables the electricity network to incorporate a greater proportion of renewable energy. While the Smart Grid, Smart City program and federal inquiry into ‘smart infrastructure’ will assist the transition to ‘smart grids’ by informing current policy and regulatory practice the Committee has concluded that it would be beneficial for the Victorian Government to identify any local and state regulatory barriers to the development of a smart grid.

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1005 Smart Grid Australia, ‘Smart Infrastructure Inquiry’, 16 December 2009
### RECOMMENDATION 9.6

The Department of Primary Industries:

(a) investigate barriers, including regulatory barriers, to the development of smart grid technologies that would enable increased volumes of renewable energy to be accommodated by the electricity network; and

(b) develop a smart grid strategy to address any barriers to the development of smart grid infrastructure that would enable increased volumes of renewable energy to be incorporated into the Victorian electricity network.
Chapter 10: Emerging renewable energy technologies

Key findings

10.1 The approvals framework for project applications involving emerging renewable energy technologies - such as marine, geothermal and solar - is in its infancy in Victoria.

10.2 Strategic planning is required to anticipate the approvals process for projects involving emerging renewable energy technologies. Issues such as the management of water in relation to geothermal developments, approvals required by various departments for marine energy projects and the planning approvals process for the construction of geothermal power plants need to be resolved.

10.3 The absence of an existing framework for regulating marine energy, the complex tenure and legal issues associated with the development of projects, the novelty of the technology and the lack of information available about the resource means companies working in the sector are required to ‘forge a process’ for approval of their projects. This is time-consuming. One company estimated that it has taken almost two and a half years in Victoria and three years in Western Australia to obtain the requisite approvals for exploration.

10.4 Specific issues identified by industry included the problem of getting support for a project across a range of government departments, the absence of a ‘one-stop-shop’ or forum in which high level decision makers across government departments are brought together in relation to a particular project, a ‘hands off’ attitude as opposed to a willingness to overcome challenges within government departments and an absence of champions for specific renewable energy industries within the administration.

10.5 A key challenge for the bioenergy industry is the lack of national and state policies that include plans to exploit the potential of biomass to generate both electricity and heat. Strategic planning is needed in Victoria to address the current impediments to the uptake of bioenergy.

10.6 Australia should adopt the holistic management approach to energy of the European Union. Australian renewable energy policies currently do not value heat as a form of energy. In order to facilitate the development of bioenergy, data on the bioenergy contribution of the thermal energy sector is required.

10.7 In Victoria’s forestry sector, there is no comprehensive, publicly available data on woody biomass feedstock or current methods of disposing of wood-waste. To enable any opportunities for the generation of energy from wood-waste to be identified, such baseline information is needed.
Introduction

There is significant potential in Victoria for the generation of renewable energy from a range of sources, other than wind, including geothermal, marine, solar and biomass. Companies are currently conducting preliminary work, including exploration and feasibility studies, with the aim of developing a number of these resources. Because the exploitation of renewable energy resources other than wind is generally at the formative stage in Victoria, the regulatory framework for such projects is evolving and in some cases has not been established. This chapter discusses key themes in evidence provided to the inquiry by representatives from emerging renewable industries active in Victoria.

Key issues

There are additional financial risks associated with emerging renewable technologies, which increase investment uncertainty for the industry. The global financial crisis has made it more difficult for emerging renewable energy companies, and particularly those at the early stages of development, to source finance, with the paucity of cash slowing down development in Australia.

The inquiry received evidence that the expanded Renewable Energy Target (RET) is likely to be insufficient to stimulate the requisite investment in emerging renewables such as solar and geothermal, at least in the short to medium term. The industry preference is for a mixture of tariff and tax incentives to support emerging renewables. Participants in the inquiry advocated gross feed-in tariffs for large scale renewables, particularly solar, as have been adopted by Germany, while others referred to the United Kingdom’s adoption of Australia’s RET scheme on a larger scale. However, the gross feed-in tariffs adopted by countries such as Germany were criticised by the Department of Primary Industries on the basis that:

They have tended to subsidise quite inefficient developments. If you look at wind farms in Germany, for example, they are often very small. They are often in quite moderate wind regimes – they might have 15 per cent efficiency, not 35 per cent – which means you can see vast arrays of wind turbines across a landscape not producing nearly as much power as an equivalent facility would here in Victoria.

There was general acceptance among representatives from the emerging renewable energy industries who gave evidence to the inquiry that there was no established pathway through the approvals process for their projects. The Committee received evidence from industry representatives that government departments were generally supportive of their industries, but that more could be

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1006 Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.31
1008 See chapter 3
1009 Mr G Parkinson, ‘Renewable Rivals’, The Australian newspaper, 19 November 2009, p.1
1010 Acciona Energy, submission no.33, p.8; Gannawarra Council, submission no.28, pp.1–2; Mr K McAlpine, Government Relations Manager, Vestas Australian Wind Technology, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.46
1011 Mr R Bolt, Secretary, Department of Primary Resources, briefing to the Environment and Natural Resources Committee – Melbourne, 22 June 2009
done by the Victorian Government to facilitate the application of planning and environmental 
requirements to these new types of projects and to proactively identify and address emerging policy 
and planning issues. Specific issues identified by industry included the problem of getting support for 
a project across a range of government departments,\textsuperscript{1012} the absence of a ‘one-stop-shop’ or forum 
in which high level decision makers across government departments are brought together in relation 
to a particular project,\textsuperscript{1013} a ‘hands off’ attitude as opposed to a willingness to overcome challenges 
within government departments, and an absence of champions for specific renewable energy 
industries within the administration.\textsuperscript{1014}

Victorian Government departments briefed the Committee on the extent to which organisational 
changes would assist in reducing risks and delays for investors in renewable energy projects. The 
Department of Planning and Community Development (DPCD) told the Committee that ‘the 
government has people who are more than able [to assist industry]; a part of their job is to make 
sure they understand the system, they understand the requirements and they understand the 
information that is needed before you trigger commencement of the process’.\textsuperscript{1015} The Department of 
Sustainability and Environment (DSE) observed that while ‘every department does have somebody 
... it is an ideal time for there to be a consideration of an endorsement of some kind of leadership 
capability [within government] for the promotion of this industry as effectively an industry in its own 
right.’\textsuperscript{1016} The Department of Primary Industries (DPI) informed the Committee that:

\begin{quote}
It is as much as anything for government to organise itself to have a greater focus on getting these 
projects through the pipeline, to escalate issues before they bubble around for too long at levels of 
organisations that are unable to resolve them appropriately. I think it’s senior attention ... in which 
government coordinates its approvals processes more actively. It is really an administrative and 
organisational reform exercise just to make sure that you end up with senior attention being paid to 
the difficult questions of competing objectives. These are not issues that can be left at the wrong 
levels of organisations to resolve.\textsuperscript{1017}
\end{quote}

The recommendations made in chapter 5 with respect to a Technical Reference Group and 
appointment of a departmental Project Manager to coordinate government departments, are 
applicable to emerging renewable energy projects as well as wind farm developments. 
Implementation of these recommendations will facilitate a more informed assessment of emerging 
renewable energy projects and improve coordination between the government departments involved 
in administering the approvals process.

\begin{footnotes}
\item[1012] Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee – 
Adelaide, 29 September 2009, transcript of evidence, p.306
\item[1013] Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee – Port Fairy, 
8 September 2009, transcript of evidence, p.224
\item[1014] Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources 
Committee – Adelaide, 28 September 2009, transcript of evidence, p.268
\item[1015] Mr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community 
Development, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
\item[1016] Mr P Harris, Secretary, Department of Sustainability and Environment, briefing to the Environment and Natural 
Resources Committee – Melbourne, 21 July 2009
\item[1017] Mr R Bolt, Secretary, Department of Primary Industries, briefing to the Environment and Natural Resources 
Committee – Melbourne, 22 June 2009
\end{footnotes}
Accordingly the Committee recommends that:

**RECOMMENDATION 10.1**

A Technical Reference Group and departmental Project Manager be appointed for all renewable energy planning applications, including emerging renewable energy technologies.

The industry-specific analysis presented in this chapter indicates a need for greater strategic planning to be undertaken by government departments to anticipate the approvals process for emerging renewable energy developments. The Committee recommends that a panel consisting of senior departmental representatives, industry and local government be formed to investigate regulatory requirements for emerging renewable energy developments. Such a process could be used to anticipate and resolve issues such as water approvals for the geothermal industry and the coordination of approvals from different government departments that are required for marine energy projects.

If a strategic planning process is undertaken while projects are at the exploration and feasibility stages, it could significantly reduce the extended processing times that typically apply when regulators encounter new and unfamiliar forms of development at the application stage. Industry should participate in such strategic planning to ensure that the process is responsive to the nature of their developments, but also so that proponents are able to factor regulatory requirements into their project planning.

Therefore the Committee recommends that:

**RECOMMENDATION 10.2**

An emerging renewable energy technologies expert panel consisting of senior departmental representatives, industry and local government be formed to investigate regulatory requirements for emerging renewable energy developments. The panel should examine issues including:

(a) water approvals for the geothermal industry;

(b) the coordination of approvals that are required by different government departments for marine energy projects; and

(c) the planning approvals process for the construction of geothermal power plants.

**Geothermal energy**

The *Geothermal Energy Resources Act 2005 (Vic)* regulates the exploration for and extraction of large-scale commercial geothermal energy. The Act treats geothermal resources and energy as a unique resource category, unlike legislation in some other States, where geothermal is treated as a mineral (New South Wales and Tasmania) and within the petroleum legislation (South Australia and Western Australia).
The Act establishes three approvals that grant rights to carry out specific geothermal activities over a particular area: an exploration permit, a retention lease and an extraction licence:

- an exploration permit authorises the holder of the permit to exclusively carry out geothermal energy exploration over a particular area of land. Permits can be granted by the Minister for periods of up to 15 years. The first permit was granted on 14 May 2007.\footnote{Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee – Port Fairy, 8 September 2009, transcript of evidence, p.224}
- a retention licence can be granted where an exploration permit holder has made a geothermal energy discovery that is not yet commercially viable to develop, but which might become so within 15 years.
- an extraction licence authorises the extraction of geothermal energy in a given area for an indefinite term. The holder of an exploration permit or retention lease has an exclusive right to apply for an extraction licence over that area of land. An applicant for an extraction licence is required to provide plans for community consultation and Aboriginal cultural heritage and an environmental report to the Minister.\footnote{Allens Arthur Robinson, The above information is extracted from Alex Fleming and Scott Langford, ‘New Geothermal Energy Resources Regulation in Victoria’, Focus: Resources, May 2005, pp.1–2, <http://www.aar.com.au/pubs/resforesmay05.htm>, accessed 17 November 2009}

- The regime for issuing geothermal approvals is ‘all very new’\footnote{Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, p.268} and as a result participants in the geothermal industry ‘have not gone through the planning process for construction of geothermal plants’.\footnote{Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.224} The most developed projects are only at the advanced exploration or ‘proof of concept’ stage and therefore the industry has not yet experienced the planning approvals process for the construction of geothermal power plants.\footnote{Dr M Elliott, Managing Director, Hot Rock Ltd, Environment and Natural Resources Committee public hearing – Port Fairy, 8 September 2009, transcript of evidence, p.224} Key issues identified by the geothermal industry in evidence to the inquiry are the need for a defined and functional approvals process, particularly in relation to the management of water, regular meetings between key stakeholders on project approval matters and funding support.

### Tender versus over-the-counter permits

The Victorian Government allocates geothermal exploration permits through a public tender process. DPI has conducted two tenders, in 2006 and 2008. A total of five companies accepted offers over 12 separate geothermal exploration permits in 2007 with companies committing over $64 million in expenditure over the five year term of the permits (see map at figure 10.1). In 2008, a total of three companies accepted offers over 11 separate geothermal exploration permits and committed to spend over $300 million over the five year term of the permits (see map at figure 10.2).\footnote{Department of Primary Industries, ‘Geothermal Acreage Release’, <http://www.dpi.vic.gov.au/dpi/nrenmp.nsf/LinkView/4B1AAC7DEF185ED3CA25714B007C8F22F3E8F7FE27CEB5ABCA257003000808E>, accessed 19 November 2009}
Figure 10.1  Map of 2006 Geothermal Acreage Release

Source:  Department of Primary Industries, ‘Geothermal Acreage Release’,  
The Australian Geothermal Energy Association (AGEA) informed the Committee that the geothermal industry's first priority in terms of State government policy is to achieve 'a workable legislative and regulatory framework'. The Chief Executive of AGEA, Ms Susan Jeanes, advised that the industry 'absolutely' prefers an over-the-counter process of permit allocations, such as that used in South Australia, to the tender process adopted by Victoria. She explained that:

> There are concerns amongst the industry that just by participating in the tender process you are giving away your intellectual property because if you think that is a good area and word gets out that you think that is a good area, somebody who thinks that company knows what it is talking about might then come in over the top of you and apply for the same area.

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1024 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, p.267
1025 See chapter 4 for a discussion of the South Australian process
1026 Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, p.267
The Committee acknowledges the concerns presented by AGEA, but given that the tender process in Victoria has now been used to allocate two tranches of geothermal exploration licences and that those licences now cover most of the State, the Committee has concluded that it would be inadvisable to change the exploration licence approvals process for geothermal energy.

Administration of the approvals process

The Petroleum Branch of DPI administers the geothermal sector. Dr Mark Elliott, the Managing Director of geothermal company, Hot Rock Ltd, observed that the government departments –

want to act as the policeman rather than as a facilitator to assist in the approval of projects... They should look at the companies wishing to develop significant projects for Victoria as clients.

In evidence to the Committee, he commented further on the approach of relevant government departments:

It is an approach issue ... It is not just, 'We are the regulator and we have the big stick'. It is, ‘We have some projects here that everybody benefits from. How do we develop these according to the rules and regulations?’

According to the AGEA, ‘we need champions in [the government of] Victoria driving the process’. Dr Elliott argued for a proactive approach by administrators, such that government departments would begin anticipating the approvals process for the construction of geothermal extraction plants while the industry is still at the ‘proof of concept’ stage, rather than when the first application for such a project is submitted. AGEA and Dr Elliott advocated the concept of a ‘one stop shop’ high level interdepartmental committee, composed of decision makers, to facilitate the approvals process for geothermal energy plants. In addition, Dr Elliott indicated the need for regular meetings between various stakeholders within government departments on particular project approvals:

In our particular case that would involve the DPI regulation branch; Geoscience Victoria; somebody representing the environment and also water; and there may be various community representatives there as well. So that is part of our one-stop shop to facilitate fast-tracking these projects within the legislation.

The Committee noted that a Technical Reference Group (discussed in chapter 5) may fulfil such a function. According to Hot Rock Ltd, water approvals are likely to become an issue for the Victorian geothermal industry at the extraction licence stage. Water approvals are particularly relevant to...
companies seeking to exploit hot sedimentary aquifers, as water is the resource they use to generate energy. Evidence was given to the Committee that such companies would prefer that the application of Victoria’s water approvals regime was resolved in the immediate future, rather than at the stage when an extraction licence application is made.\textsuperscript{1034} The unique requirements of Victoria’s geothermal developers in relation to water is an example of an issue that government departments could resolve in order to speed up the application of the assessment process when formal development applications are made.

As noted above, the branch of government responsible for administering the geothermal regulation in Victoria is the Petroleum Branch of DPI. The \textit{Australian Geothermal Industry Development Framework} provides an insight into the regulatory disadvantages the geothermal industry may experience by being treated equivalently to the petroleum and gas industries:

\textit{It should be noted that the geothermal industry may be disadvantaged by being required to comply, at significant cost, with regulations related to petroleum industry drilling requirements and its associated procedures for flammable liquids and gases, when they are not applicable to geothermal fluids … Treating the industry separately to the mining or petroleum industries may have the benefit of removing unnecessarily stringent safety and environmental compliance obligations.}\textsuperscript{1035}

Ms Jeanes observed that, across Australia, there needed to be a greater understanding amongst government departments ‘that the needs of the geothermal industry and the way that they drill wells are different to the petroleum and the gas industry’.\textsuperscript{1036}

\section*{Funding}

The geothermal industry has criticised federal funding programs for their lack of certainty – noting that grants for geothermal drilling ended in 2009 – and size, relative to industry requirements and expectations.\textsuperscript{1037} The two most advanced geothermal companies – Petratherm and Geodynamics in South Australia – were awarded a total of $153 million under the Renewable Energy Demonstration Program in November 2009.\textsuperscript{1038} There is also $50 million available from the Commonwealth Government for geothermal drilling programs, $35 million of which was awarded to five geothermal companies in December 2009, including grants to two companies operating in Victoria: Hot Rock Ltd and Greenearth Energy Ltd.\textsuperscript{1039} In addition, the geothermal industry may be able to access funding from the newly created Australian Centre for Renewable Energy which will have an estimated $215 million in residual funding from unallocated schemes.\textsuperscript{1040} The industry has argued that, along with marine energy, its funding should be around the $3-$4 billion recommended by the Garnaut

\textsuperscript{1034} Hot Rock Ltd, personal communication, 30 November 2009
\textsuperscript{1036} Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, pp.268–269
\textsuperscript{1037} Ms S Jeanes, Chief Executive, Australian Geothermal Energy Association, Environment and Natural Resources Committee public hearing – Adelaide, 28 September 2009, p.269
\textsuperscript{1038} The Renewable Energy Development Program is outlined in chapter 3
\textsuperscript{1039} Hon. P Batchelor MP and Mr G Jennings, \textit{Geelong Region Heats Up As A Hub for Geothermal}, media release, 9 December 2009
\textsuperscript{1040} Mr G Parkinson, ‘Geothermal Operators Have To Pipe Down’, \textit{The Australian} newspaper, 16 November 2009, p.26
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In addition, AGEA has criticised the geothermal drilling grant program as insufficient, on the basis that 14 companies were in competition for the five federal drilling grants.1042

The Victorian Government does not have a funding program specifically focused on the geothermal industry. However, this year, for the first time, the government has made grants available to the geothermal industry, along with the mineral and resources sector, as part of its $700,000 ‘Rediscover Victoria’ drilling funding scheme.1043 Based on a comparison with the support to geothermal exploration and development provided by the South Australian Government,1044 the Victorian grants are smaller and narrower in scope. In December 2009 the Victorian Government provided geothermal company Greenearth Energy with a $25 million clean energy grant for its Geelong power project.1045

Marine energy

According to the Victorian Government submission, the state has ‘world-class’ wave, tidal and off-shore wind resources.1046

Regulatory context

The development of a regulatory framework for marine renewable energy is in the formative stages in Victoria. The Committee has been informed that DSE is leading a whole of government approach to regulating marine renewable energy sites in Victoria. A process is now in place to establish the allocation of the seabed to prospective marine energy projects and consultation with stakeholders will commence by March 2010.

The Committee is aware of the following engagements between the industry and government regulators:

- Carnegie Corporation has been granted a Coastal Management Act consent, and is working to finalise a licence, which will be in the form of a lease combined with a licence to undertake specified activities;1047 and

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1041 Mr G Parkinson, ‘Securing Funding for Fuels of the Future Just Blue Sky Dreaming’, The Australian newspaper, 3 October 2009, p.3
1042 Mr G Parkinson, ‘Securing Funding for Fuels of the Future Just Blue Sky Dreaming’, The Australian newspaper, 3 October 2009, p.3
1044 See chapter 3
1046 Victorian Government submission no.21, p.4
1047 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, p.303
• at least four projects are at the pre-planning stage, including Ocean Power Technology, Oceanlinx, Top Run and Carnegie Corporation.\textsuperscript{1048}

In November 2009, Ocean Power Technologies was awarded a $66.5 million grant by the Federal Government to build a 19 megawatt plant near Portland. It is interesting to note that much larger incentives for the development of marine energy are being offered by a number of European countries, mainly as a consequence of that region’s lack of solar and geothermal resources. A newspaper report published in November 2009 estimated that with both the Carbon Pollution Reduction Scheme in operation and access to Renewable Energy Certificates, the tariff for wave energy in Australia would be about $150 MW/h. By contrast, in England the tariff is $250 MW/h, in Ireland and Portugal $300 MW/h and in Scotland $600 MW/h. In addition, the United Kingdom is investing large amounts of money in communal test sites for marine power developers.\textsuperscript{1049}

The Committee has been informed by industry that government departments have been supportive and facilitative\textsuperscript{1050} and that they have had ‘exceptional’ access to decision makers in government departments.\textsuperscript{1051} However, one participant in the inquiry criticised government processes as lacking transparency.\textsuperscript{1052} Mr Allan Major, the Director of Tenax Energy, gave evidence that:

\begin{quote}
At no time have we received a written response from the Victorian Government. We have lodged documentation with two agencies in the Victorian Government and have received verbal responses but nothing in writing … One would expect that if you are seeking government advice that that advice would come in a form that is acceptable. I do not really think the verbal advice is commercially right and commercially viable. It basically leaves us hanging. If it is a written response with clearly enunciated reasons for the decision, at least you can assess that decision and make a decision on your way forward.\textsuperscript{1053}
\end{quote}

Mr Greg Allen, the Chief Operating Officer of Carnegie Wave Energy Ltd, told the Committee that:

\begin{quote}
The various departments in Victoria have been quite supportive. One department may be supportive, but then another department has to deal with the process of securing what is required. So I suppose getting that common drive between departments is probably the challenge that we have seen in all states and in Victoria as well.\textsuperscript{1054}
\end{quote}

The primary regulatory issue raised with the Committee by the marine energy industry was that due to the absence of an existing framework for regulating marine energy, the complex tenure and legal issues associated with the development of these projects, the novelty of the technology, and the lack of information available about the resource, companies working in the sector are required to ‘forge a process’ for approval of their projects. This process is time-consuming for those companies at the

\textsuperscript{1048} Mr G Hull, Group Manager, Biodiversity Services South West Victoria, Department of Sustainability and Environment, Environment and Natural Resources Committee public hearing – Port Fairy, tabled document, Renewable Energy Project Status Far South West Victoria, 8 September 2009
\textsuperscript{1049} Mr G Parkinson, ’Tapping into Circuit Breakers’, The Australian newspaper, 19 November 2009, p.5
\textsuperscript{1050} Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.35–36; Mr Greg Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.306
\textsuperscript{1051} Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.32
\textsuperscript{1052} Tenax Energy, submission no.1, p.3
\textsuperscript{1053} Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.32–33
\textsuperscript{1054} Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.306
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forefront of developing marine energy in Australia. Mr Carnegie Wave Energy estimated that it has taken almost two and a half years in Victoria and three years in Western Australia to go through the process of obtaining the requisite approvals for exploration. Mr William Hollier, the Institute Director of EnGen Institute, a research trust, asserted in a presentation to the 2009 All-Energy Conference that government decisions have been delayed by a one-off approach to decision making and that simpler licensing schemes are required.

Marine energy approvals: unique tenure issues

Industry participants emphasised that long-term security of tenure is important, not only to gain permission to explore for and exploit a given marine energy resource, but also in order to provide certainty for investment. Mr Greg Allen from Carnegie Wave Energy Ltd, gave evidence that the company requires a form of seabed licence for unreserved Crown land in State waters to ‘give us investment confidence to undertake non-invasive exploratory activities to ascertain the feasibility of doing a project at a potential site.” Mr Allen explained that as more rigorous investigation of particular sites progresses, ‘the trajectory of dollars goes up, so you need the confidence that flows from securing long-term tenure.” Similarly, Mr Allan Major from Tenax Energy told the Committee that ‘if you have guarantee of tenure from the start of the process until the end of the life of the project, then as a proponent you can secure the finances to undertake the project. The negotiation of the approvals process by emerging marine energy proponents is made additionally complex because it involves difficult access issues associated with rights to the sea and Crown land. In its submission to the inquiry, the Victorian Government identified the need to consider the adequacy of the current planning framework for assessing projects that are off-shore or in the inter-tidal zone. Mr Hollier noted that the application of maritime law has been a significant impediment to marine energy development. Mr Allan Major from Tenax Energy argued that:

In regard to the difference between terrestrial and marine, there should be none. There is a resource there…. It is exactly the same as if you are doing an exploration for any other mineral or energy resource, be it oil and gas or any other energy resource.

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1055 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.303

1056 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.303

1057 Mr W Hollier, Institute Director, EnGen Institute, All-Energy Australia 09 conference, Melbourne, 8 October 2009

1058 International Development of Marine Energy


1060 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, pp.302, 305

1061 Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.33

1062 Victorian Government, submission no.21, p.15

1063 Mr W Hollier, Institute Director, EnGen Institute, All-Energy Australia 09 conference, Melbourne, 8 October 2009

1064 International Development of Marine Energy

1065 Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.33

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The Committee understands that the multiple uses of the marine environment, such as fishing, shipping, recreation and conservation, can create complex issues for planners. In particular, it is likely that marine energy developments could restrict the access of other user groups to the areas of the ocean on which those developments are constructed. In attempting to ascertain the typical size of a marine energy installation and its exclusion zone – and therefore its impact on other users – the Committee concluded that it will vary according to the nature of the technology and the size of the resource.1065

Industry has raised concerns about gaining tenure on Crown land in Victoria.1066 Mr Major argued that the risk profile for accessing renewable energy on Crown land is substantially higher than what it is on private land.1067 Mr Allen from Carnegie Wave Energy noted that, ‘what we have achieved in Victoria is probably almost a little bit back to front to what we have achieved in other states where we have the ability to go and deploy a single test unit to do ... quantification work.’1068 In Victoria, while Carnegie Wave Energy has Coastal Management Act consent from DSE to deploy a single unit or wave monitoring buoy at a particular location, it cannot deploy the buoy until it also has a licence.1069 Having gained a Coastal Management Act approval from DSE, Carnegie Wave Energy must now lodge a separate application for a licence with DPCD. By contrast, in other jurisdictions, such as Western Australia where Carnegie has recently been granted a licence for a marine energy plant1070 environmental and land access approvals for marine energy have been incorporated into one application and a single approvals process.

Licensing of marine energy in Victoria is at a sensitive stage, with the Victorian Government currently assessing licence applications from industry. The Committee endorses the proposed consultation with industry referred to by DPI, as a mechanism for identifying ways in which the process can be improved for future licence applications.

Solar energy

The Committee understands that large-scale solar projects will generally be unique or ‘once off’ developments. For instance, the Solar Systems development planned for Victoria was progressed under the Planning and Environment Act 1987 (Vic) through an amendment to the planning scheme.1071

A key issue with developing large-scale solar energy in Victoria is funding. The start-up cost for such facilities is high. The Victorian Government informed the Committee that for a 250 megawatt solar power station, the capital cost is slightly more than $1 billion.1072 At the time of writing, the Victorian

1065 Personal communication, Oceanlinx, 12 January 2010
1066 Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, pp.32–33
1067 Mr A Major, Director, Tenax Energy, Environment and Natural Resources Committee public hearing – Melbourne, 27 July 2009, transcript of evidence, p.33
1068 Mr Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.305
1069 Mr G Allen, Chief Operating Officer, Carnegie Wave Energy Ltd, Environment and Natural Resources Committee public hearing – Adelaide, 29 September 2009, transcript of evidence, p.305
1070 Ms A O’Brien, ‘West Ready for Clean Energy’s New Wave’ The Australian newspaper, 9 December 2009, p.6
1071 Dr J Gilmore, Executive Director, Planning Policy and Reform, Department of Planning and Community Development, briefing to the Environment and Natural Resources Committee – Melbourne 21 July 2009
1072 Dr A Panow, Director, Energy Investment, Department of Primary Industries, briefing to the Environment and Natural Resources Committee – Melbourne, 21 July 2009
Government had earmarked $50 million for the construction of the Solar Systems large-scale solar facility. The Commonwealth Government has also committed funding to the solar industry (chapter 2). Acciona Energy, an international renewable energy company that has global interests in solar generation, stated in its submission to the inquiry that:

There is a clear need for additional long term incentives beyond the proposed combination of CPRS and MRET if large scale solar thermal and PV technologies are going to be established in states such as Victoria ... we recommend a gross feed-in tariff system be implemented that is tailored to different technologies and does not discriminate against scale.1073

The Committee understands that Germany, Spain, China and the United States are positioned to attract the majority of investment in solar energy as these countries have instituted the most generous system of government incentives and tariffs.1074

A number of local councils provided the inquiry with submissions which were supportive of solar energy.1075 Their submissions to the inquiry emphasised the importance of a simple, straightforward regulatory regime in encouraging solar generation, clear and generous arrangements for the purchase of surplus energy produced by large scale installations1076 and a review by the government as to the adequacy of remote and regional infrastructure to accommodate large-scale solar energy.1077

Bioenergy

Sufficient biomass exists to supply a significant proportion of Australia’s future stationary energy generation and this capacity can be implemented with the use of established stationary energy conversion technologies, according to the Bioenergy Roadmap produced by the Clean Energy Council. However the council also observed that ‘in a general sense, the Australian bioenergy industry is still relatively fragmented and has yet to gain full confidence from financial institutions at a significant scale.’ 1078

The Committee was advised that there is significant potential to generate bioenergy in Victoria:

Victoria could significantly, rapidly and cost-effectively reduce its greenhouse gas emissions by using the energy in agricultural residues, in forestry harvest residues and timber processing waste, in municipal sorted flammable waste and putrescible, and in sewage and grey water flows. There is also considerable but unrealised scope for using energy from short rotation crops such as oil mallee or other coppicing woody perennials. The combined energy from all this material could provide about 20 per cent of Victoria’s energy needs or about 2000 MW by 2020 if state and federal emissions reduction policies assisted the process.1079

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1073 Acciona Energy, submission no.33, p.8
1074 Mr G Parkinson, ‘Renewable Rivals’ The Australian newspaper, 19 November 2009, p.1
1075 Gannawarra Shire Council, submission no.28; Mildura Council, submission no.35
1076 Gannawarra Council, submission no.28, pp.1–2
1077 Mildura Council, submission no.35, p.2
1078 Clean Energy Council, Australian Bioenergy Roadmap: Setting the Direction for Biomass in Stationary Energy to 2020 and Beyond, September 2008, p.15
1079 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, Improving the Process for Implementing Lower Emissions Technology in Victoria, 10 August 2009, p.1
Bioenergy is the main form of renewable energy in several northern European countries, as discussed in chapter 2. The Clean Energy Council observes that countries with a high proportion of bioenergy generation –

– all have various incentives and regulations at a country level to promote bioenergy. Feed-in tariffs are the most common policy instrument and have proved to be most effective in Austria and Denmark. Often the feed-in tariff prices are customised to encourage uptake according to the size or technology employed by the bioenergy plant... The European Union has put in place directives and strategic programs such as the Biomass Action Plan 2005 and European Renewable Energy Council Renewable Energy Roadmap ... At present, the European Parliament is aiming to double bioenergy's contribution to the total primary energy supply.1080

Alternative waste technology policies

Waste-to-energy plants generate energy from waste that cannot be reused or recycled in a technically or economically viable way. In comparison with the European Union where there are over 380 waste-to-energy plants, Australia has been slow to develop such facilities. The highest increase in waste-to-energy plants in the European Union from 2005 has occurred in Germany, the Netherlands and Sweden; countries which have reduced their dependence on landfilling to below four per cent.1081 Those countries that have most effectively decreased their reliance on landfill have done this by combining recycling, biological treatments such as composting and anaerobic digestion and waste-to-energy plants.1082

Melbourne generates nine million tonnes of waste per annum; at least a third of which could be used to produce energy, according to evidence provided to the inquiry.1083 Waste policies of the Victorian Government include the following:

- the recovery of 75 per cent of solid waste (by weight) to be reused, recycled and/or converted to energy by 2014 is a non-mandatory target in the Victorian Government's Towards Zero Waste Strategy1084
- In April 2009, the Victorian Government released the Metropolitan Waste and Resource Recovery Strategic Plan1085
- The Victorian Government has provided funding to the Victorian Advanced Resource Recovery Initiative (VARRI), which is focused on scoping and preparing business cases and procurement for two initial new alternative waste technology (AWT) facilities for Melbourne. AWT refers to 'any technology used to process mixed waste other than traditional methods such as disposal in landfill'.1086 Examples of AWT include anaerobic digestion, composting and technology to generate energy from waste.1087 The VARRI business case will be completed in February 2010

1081 Confederation of European Waste-to-Energy Plants, Waste In (Mega) Watt Out
1082 Confederation of European Waste-to-Energy Plants, Waste In (Mega) Watt Out
1083 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources Committee public hearing – Melbourne, 10 August 2009, transcript of evidence, p.75
1085 Department of Sustainability and Environment, Metropolitan Waste and Resource Recovery Plan, March 2009
1086 Department of Innovation, Industry and Regional Development, Victorian Advanced Resource Recovery Initiative - $10 million
1087 Department of Innovation, Industry and Regional Development, Victorian Advanced Resource Recovery Initiative - $10 million
and will consider the costs and benefits of available technologies for disposing of municipal solid waste, including waste to energy options.\textsuperscript{1088}

- The Environment Protection Authority has produced a waste management policy which encourages the minimisation of the use of landfills.\textsuperscript{1089}

However, regulatory targets for reducing the proportion of waste which goes to landfill have not been set in Victoria. Further, the Committee understands that various industry sectors in Victoria are currently encountering difficulties in disposing of waste which cannot be sent to landfill. For such industries, the transformation of their waste into energy would provide an optimal solution both in terms of disposing of their waste and in generating a secondary income stream.\textsuperscript{1090}

The transition within some European Union Member States from a reliance on landfill to alternative methods of waste processing, including the production of energy from waste has been, in part, facilitated by European Union law and policy on waste disposal. The European Union Landfill Directive imposed targets on member states to divert biodegradable municipal waste away from landfill within the European Union. Over the last two decades, reductions in landfilling have taken place in the European Union: in 2004, 47 per cent of total EU municipal waste was landfilled, a figure that is expected to decrease to 35 per cent by 2020. Incineration was used for 17 per cent of municipal waste in 2004 and is likely to increase to about 25 per cent by 2020.\textsuperscript{1091}

In Denmark, landfilling of waste suitable for incineration was banned in 1997. By 2007, 20 per cent of total Danish district heating production was generated on the basis of waste and about 4.5 per cent of electricity generation was based on waste.\textsuperscript{1092} In Sweden and Denmark, local councils generate income streams from flammable and putrescible waste through receiveal charges, sale of heat, electricity and vehicle fuel. At the same time, rigorous policies were introduced for recycling, separation at source and disposing of hazardous and toxic waste.\textsuperscript{1093}

The Committee believes that the Victorian Government’s energy and waste policies should be informed by global best-practice, including leading European Union Member States, which adopt a range of technologies to reduce reliance on landfill, including the utilisation of waste-to-energy plants. According to Mr Andrew Lang, in order to implement waste-to-energy initiatives it is necessary to institute a synchronised recycling program and to encourage better separation at source to remove as many contaminants as possible from the waste stream.\textsuperscript{1094}

\textsuperscript{1088} Metropolitan Waste Management Group, personal communication, 30 November 2009
\textsuperscript{1089} Environmental Protection Authority, Waste Management Policy: Policy Impact Assessment, 2004
\textsuperscript{1090} Sustainability Victoria, personal communication, 3 December 2009
\textsuperscript{1092} Danish Energy Agency, Waste Incineration – and Energy Recovery, at 2009
\textsuperscript{1093} Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, Improving the Process for Implementing Lower Emissions Technology in Victoria\textsuperscript{1094}, 10 August 2009, p.3
\textsuperscript{1094} Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, Improving the Process for Implementing Lower Emissions Technology in Victoria\textsuperscript{1094}, 10 August 2009, p.5
Strategic planning for bioenergy

A key challenge for the bioenergy industry is the current absence of national and state policies that include concrete plans for exploiting its potential. The Victorian Government’s Renewable Energy Action Plan (2006) includes provision for a biomass study to be conducted by Sustainability Victoria into the challenges and opportunities for the aggregation and use of biomass for energy generation:

*Key objectives of this measure are to provide strategic and coordinated development and to financially support investments in new energy from waste projects to further realise energy from organic waste potential in Victoria.*

In addition the Renewable Energy Action Plan states waste-to-energy projects would be facilitated with the application of regulatory measures to divert waste from landfills and through government working with industry to develop and construct alternative waste treatment facilities. The Victorian Government has provided funding and support to waste-to-energy projects in regional Victoria, including a project to cap methane from waste water in Shepparton and Tatura.

In April 2008, Sustainability Victoria produced the Biomass Technology Review: Processing for Energy and Materials. The review outlines the various biomass technologies that are currently available. The discussion on ‘strategic direction’ is limited to an overview of the advantages and disadvantages of biomass technologies. The Agriculture Development Division of the DPI produced The Energy Millennium: Bioenergy in Victoria in 2007, which provides a high-level overview of barriers and opportunities for exploiting biomass, but does not identify all the operational issues, such as supportive planning frameworks, and the need for better coordination between waste and energy sectors, and it does not canvass detailed solutions that would address the barriers it identifies. The report concluded that there is a need for ‘projects that contribute to defining policy settings that promote bioenergy strategy development for community adaptation’.

Further, the Victorian Government’s current waste policy initiatives do not include explicit or detailed planning for the adoption of bioenergy technologies. The Metropolitan Waste and Resource Recovery Strategic Plan does not examine the potential of, impediments to, or incentives for waste-to-energy options in Victoria. The Committee understands that the VARRI analysis is limited to an assessment of costs and benefits of the various technological options for alternative waste processing. The Committee agrees with Mr Lang’s conclusion that ‘the reasons for industry or investors to commit money are not felt here as the long term strategies and policies are not in place’.

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1095 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, 10 August 2009, transcript of evidence, p.78
1097 State of Victoria, Renewable Energy Action Plan, July 2006, p.27
1098 *EcoGeneration, Tatura Biogas Power Station*, July–August 2007, p.60
1099 Sustainability Victoria, Crucible Carbon, Biomass Technology Review Processing for Energy and Materials, April 2008
1101 Department of Primary Industries, The Energy Millenium: Bioenergy in Victoria Final Report, August 2007, p.66
1102 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, Improving the Process for Implementing Lower Emissions Technology in Victoria, 10 August 2009, p.2
The Committee believes that there is a clear need for strategic planning to address current impediments to the uptake of bioenergy in Victoria. The Clean Energy Council has stated that:

*Generally the technologies required to implement successful biomass-based stationary energy already exist in Australia or elsewhere in the world. Therefore the key to the success of bioenergy lies in areas such as publicity, policy and industry development rather than the development of basic technology.*\(^{1103}\)

Participants in the inquiry have highlighted a lack of formal recognition, models and incentives in Australia for the development of decentralised energy plants based on biomass.\(^{1104}\) For instance, a key challenge includes facilitating grid connection for small distributed energy plants.\(^{1105}\) In *The Energy Millennium*, DPI identifies key network access issues as including ‘inconsistent and complex network connection requirements, inappropriate for the technology being proposed, and with high transaction costs’ and ‘current network planning in Victoria that is incremental and reactive to state-wide demand, rather than adopting a strategic regional focus’.\(^{1106}\)

Another challenge is that bioenergy generators will ‘typically be located near the load for energy and embedded in distribution networks’. The City of Darebin argued that supportive planning frameworks are required for bioenergy as ‘siting arrangement flexibility – particularly with regard to product source, is critical’.\(^{1107}\) For instance, the bioenergy production site needs to be close to the biomass source in order for it to be feasible in economic and environmental terms.\(^{1108}\) Finally, greater engagement between waste and energy sectors in relation to the implementation of biomass solutions is required in order to realise the potential of the resource.\(^{1109}\) As discussed elsewhere in this section, firm targets for the reduction of landfill, innovative approaches to waste that value heat and an emphasis on separation at source are some of the policies that have been used effectively in the European Union to promote the generation of energy from waste.

The capital intensity of a bioenergy project is higher than for wind generators, according to DPI.\(^{1110}\) The cost implications of bioenergy generation were outlined by the Clean Energy Council in its *Australian Bioenergy Roadmap* as follows:

Most upstream businesses that produce food, fibre and other products from biomass have little expertise or interest in stationary energy conversion. This issue is compounded by the fact that stationary energy conversion is characterised by long-term, high-capital costs.\(^{1111}\)

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1104 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, *Improving the Process for Implementing Lower Emissions Technology in Victoria*, 10 August 2009, p.4


1106 Department of Primary Industries, *The Energy Millenium: Bioenergy in Victoria Final Report*, August 2007, p.18. Issues associated with network access and connection are discussed in more detail at chapter 9

1107 City of Darebin, submission no.11, p.4


1109 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, *Improving the Process for Implementing Lower Emissions Technology in Victoria*, 10 August 2009, p.4

One consequence of the capital cost of bioenergy production is the ‘scale issues which imply that it is only viable for the biggest farm enterprises’, although small to medium agriculture businesses may be able to form a cooperative scheme in order to pool their resource base.\footnote{Clean Energy Council, \textit{Australian Bioenergy Roadmap: Setting the Direction for Biomass in Stationary Energy to 2020 and Beyond}, September 2008, p.16}

Biomass is currently providing 32 per cent of Victoria’s renewable energy generation, as discussed in chapter 2. As opposed to some other renewable energy technologies, biomass technology has been developed and is ready for application. The Committee has concluded that while the Victorian Government has been active in progressing research on biomass technology this has not translated into policy development and project implementation. As Mr Lang observed:

\begin{quote}
Our present system of developing renewable energy appears uninterested in looking at some excellent options, including bioenergy and waste-to-energy, that are in fact tried and proven, are available off the shelf, and are safe, low emission, cost-effective, sustainable and baseload.\footnote{Department of Primary Industries, \textit{The Energy Millenium: Bioenergy in Victoria Final Report}, August 2007, p.18.}
\end{quote}

This chapter has outlined a number of initiatives relating to bioenergy that are being developed by a range of government departments, however, a Victorian bioenergy strategy has not been formulated. Mr Lang argued that ‘there is not good comprehension at all levels of government, including local governments and state planning departments about the scope for using this material as a baseload source of energy.’\footnote{Mr A Lang, Chairman, SMARTTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, \textit{Improving the Process for Implementing Lower Emissions Technology in Victoria}, 10 August 2009, p.3}

The Committee therefore recommends that:

\begin{center}
\textbf{RECOMMENDATION 10.3}
\end{center}

The Victorian Government’s Future Energy Statement should include a commitment to develop a bioenergy strategy that would:

(a) incorporate thermal energy; and

(b) address impediments to, and realise opportunities for, the uptake of bioenergy in Victoria.

\footnotesize

\begin{itemize}
\item \footnote{Mr A Lang, Chairman, SMARTTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, \textit{Improving the Process for Implementing Lower Emissions Technology in Victoria}, 10 August 2009, p.4} 1113
\end{itemize}
Forest waste

Wood-related wastes that can be used to produce bioenergy include ‘wastes produced in the harvesting and processing of wood such as sawmill and pulp-mill residues’.\(^{1115}\) The amount of energy generated from wood-related wastes and residues in Australia is significantly below that of other Organisation for Economic Co-operation and Development (OECD) countries.\(^ {1116}\) Mr Lang provided the following comparison between the contribution of wood waste to energy in Australia and some European countries:

> In Australia the energy contribution from woody biomass to the national electricity total demand is under 0.5 per cent, and is mostly as sugar cane waste (bagasse). The contribution here of woody biomass to total energy use is up to 5 per cent, mostly as firewood for domestic heating. By comparison, in Denmark, the contribution from biomass to energy (including thermal energy) is about 5 per cent, and this is mainly from straw and woody biomass. In Sweden it is closer to 20 per cent … In Finland overall it is about 24 per cent … Finland is remarkable in that almost 20 per cent of the nation’s electricity is presently generated from woody biomass and timber industry by-product …\(^ {1117}\)

According to the Clean Energy Council, much of the technology is in place to facilitate the production of renewable energy from woody residues.\(^ {1118}\) However, Mr Lang argues that:

> It takes the combination of many factors to develop an energy sector based on vast volumes of woodchip – a relatively low density fuel that requires high cost specialist machinery to be able to be produced and transported cost-effectively. The furnaces for this high moisture content fuel are of different design to those fuelled by powered coal or gas or oil. The development of the bioenergy sector has required the support of the other parts of the industry, of manufacturers and of energy producers. It has also required tax and subsidy support to make this fuel more competitive. It has required appropriate legislation to be passed by governments based on clear long term policies.\(^ {1119}\)

Under the Federal Government’s mandatory renewable energy target scheme, bioenergy plants may produce Renewable Energy Certificates. However, there are restrictions on the eligibility of wood waste to generate renewable energy, including that the waste must come from sources complying with all government requirements with regard to sustainable forestry and wood waste from native forests must not have been harvested with power production as its primary purpose.\(^ {1120}\) According to the Clean Energy Council:

> the Mandatory Renewable Energy Target (MRET) requires wood wastes to be certified as conforming to the existing legal and regulatory frameworks in place to ensure the environmental sustainability of forest management. These requirements are often unable to be met in a practical cost-effective way by suppliers or contractors engaged in the disposal of such wastes. This additional complexity has meant that it is very difficult to source wood wastes of any sort in a practical and competitive way, even where these are from non-native forest sources. It should be stated that MRET is an energy policy rather than a forest resource policy and that existing legal and regulatory frameworks for forestry management would be better applied to this issue.\(^ {1121}\)


\(^{1117}\) Mr A Lang, *Energy from Wood: Policies, Logistics and Economics of Bioenergy in Nordic Countries, 2008 Gottstein Fellowship Report*, p.17


\(^{1120}\) SED Consulting, *Central Highlands Bioenergy Scoping Study*, August 2009, p.26

In its report, The Energy Millennium: Bioenergy in Victoria, the DPI argued that ‘forestry residues are not a major source of bioenergy, primarily because utilisation of residues from native forests is prohibited’. DPI described the consequences of Victoria’s ban on the use of biomass from native forests as follows:

The wood waste generated by harvesting native forests on crown land is not available for bioenergy projects and is either chipped or pushed into wind rows and burnt in situ. The latter can contribute to deterioration in soil quality and structure, waterway condition and air quality.

Action 07 of the Victorian Government’s Timber Industry Strategy states that:

We will support a national approach to the use of native forests for energy production, consistent with the Commonwealth Government’s expanded national Renewable Energy Target Scheme.

To enable policy developments in relation to the generation of energy from wood waste, reliable data is required. A number of resources give some indication of the availability of feedstock for bioenergy in Victoria:

- The Clean Energy Council’s Biomass Resource Appraisal, produced in 2008, provides national estimates of forestry residues, wood waste, pulp and paper mill and recycled paper mill products;
- The Energy Millennium: Bioenergy in Victoria, a report prepared by the Agriculture Development Division of DPI in 2007, which examines the opportunities to develop bioenergy across the state and identifies some potential biomass sources, although the report focuses on biofuels (as opposed to waste); and
- Sustainability Victoria’s webpage, Bioenergy Resource in Victoria, has maps, dated 2003, showing the potential sources of wood biomass across the State.
- However, these resources combined do not provide up to date and comprehensive data on the feedstock for the production of bioenergy that is available from the forestry sector. Further, the Committee was unable to attain publicly available information as to how the waste from timber operations is currently disposed of. Collated information on the resource and current disposal techniques would enable opportunities for the generation of energy from wood-waste to be identified.

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1122 Department of Primary Industries, The Energy Millennium: Bioenergy in Victoria Final Report, August 2007, p.52
RECOMMENDATION 10.4

The Department of Primary Industries coordinate an audit in 2010 of the feedstock from forestry operations that could be deployed to produce energy from biomass. The report should be published.

RECOMMENDATION 10.5

The Department of Primary Industries conduct a survey in 2010 of current practices for disposing of waste from timber and forestry operations.

Valuing bioenergy

The associated costs of producing energy from waste are significantly higher than the current landfill tariff in Victoria.\textsuperscript{1128} However, such a comparison does not take into account:

- the environmental and sustainability benefits of waste-to-energy plants, including the production of energy and reduction of methane gas emissions from landfill;
- the economic development opportunities, particularly in regional and agricultural sectors, associated with creating secondary industries from waste products;
- benefits in terms of energy security and insulating businesses who generate bioenergy from energy costs increases; and
- the capacity of waste-to-energy plants to provide a solution to current difficulties encountered by a variety of industries in disposing of waste that cannot be sent to landfill.\textsuperscript{1129}

Given Victoria's history of low gate prices for landfill, the Committee is concerned that decision making on the most appropriate alternative waste technology and waste to energy technologies will be made on the basis of increases to landfill tariffs, rather than through a long-term, systems based analysis of the environmental, social and economic benefits of alternative disposal regimes.

Finally, existing renewable energy policies do not value heat as a form of energy\textsuperscript{1130} and therefore do not capture the value of bioenergy in being able to deliver thermal energy as well as electricity. By contrast, a more holistic approach to energy is taken by the European Union, in which heat is valued

\textsuperscript{1128} City of Darebin, submission no.11, p.5
\textsuperscript{1129} Clean Energy Council, \textit{Australian Bioenergy Roadmap: Setting the Direction for Biomass in Stationary Energy to 2020 and Beyond}, September 2008, pp.5-9; Personal Communication, Sustainability Victoria, 3 December 2009.
\textsuperscript{1130} Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, \textit{Improving the Process for Implementing Lower Emissions Technology in Victoria}, 10 August 2009, p.4
as a form of energy and green energy certificates are issued for heat as well as electricity. The Committee is strongly of the view that Victoria would benefit from adopting a comprehensive approach to energy, which encompasses heat in addition to electricity.

According to the Clean Energy Council, biomass is currently being used in a wide range of commercial and industrial applications to produce thermal energy. However, there is currently no collated data for the thermal energy contribution of bioenergy in Australia, which the Clean Energy Council describes as ‘a fundamental impediment to the development of the sector.’

The Committee recommends that:

**RECOMMENDATION 10.6**

The Department of Primary Industries conduct a survey in 2010 of existing thermal bioenergy users to determine a baseline measure of how the resource is currently being used in Victoria.

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1131 Mr A Lang, Chairman, SMARTimbers Cooperative, Environment and Natural Resources public hearing – Melbourne, tabled documents, *Improving the Process for Implementing Lower Emissions Technology in Victoria*, 10 August 2009, p.2

## Appendix 1: List of submissions

<table>
<thead>
<tr>
<th>No.</th>
<th>Organization/Person</th>
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<tr>
<td>1</td>
<td>Tenax Energy</td>
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<td>2</td>
<td>Ceramic Fuel Cells Limited</td>
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<td>3</td>
<td>Greater Bendigo City Council</td>
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<td>4</td>
<td>Hamish Cumming</td>
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<td>Tim Le Roy</td>
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<td>AGL Energy Limited</td>
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<td>Vestas</td>
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<td>Kathy Russell</td>
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<td>Central Victorian Greenhouse Alliance</td>
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<td>10</td>
<td>Origin Energy Power Ltd</td>
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<td>City of Darebin</td>
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<td>Building Designers Association of Victoria</td>
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<td>Bruce Keen and Heather Barker</td>
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<td>15b</td>
<td>Western Plains Landscape Guardians Association – Additional submission</td>
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<td>NewEn Australia Pty Ltd</td>
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<td>Adrian and Helen Lyon</td>
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<td>Wellington Shire Council</td>
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<td>CitiPower and Powercor Australia Ltd</td>
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<td>Victorian Government</td>
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<td>Clean Energy Council</td>
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<td>Northern Alliance for Greenhouse Action</td>
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<td>Councils in South West Victoria [Shires of Moyne, Southern Grampians, Glenelg, Corangamite and the City of Warrnambool]</td>
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<td>25</td>
<td>David Sparks</td>
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<td>Alternative Technology Association</td>
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<td>Pacific Hydro Pty Ltd</td>
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<td>WestWind Energy Pty Ltd</td>
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<td>Union Fenosa Wind Australia</td>
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<td>Mildura Rural City Council</td>
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<td>Australian Building Codes Board</td>
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<td>Helen Darbyshire</td>
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<td>38</td>
<td>Residents Against Turbines in Tooborac</td>
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<tr>
<td>39</td>
<td>Environment Defenders Office (Victoria) Ltd</td>
</tr>
</tbody>
</table>
Appendix 2: List of public hearings

6 July 2009 – Melbourne

**Clean Energy Council**
Ms S Jones, General Manager, Industry Development  
Mr R Jackson, General Manager, Policy

**Infigen Energy**
Mr J Upson, Project Manager

**Vestas Australian Wind Technology**
Mr K McAlpine, Government Relations Manager

**Northern Alliance for Greenhouse Action**
Ms J Bush, Coordinator  
Ms R Read, Project Manager, Towards Zero Net Emissions

**Arup Sustainability**
Mr R Turk, Sustainability Leader, Victoria

**Pacific Hydro**
Mr R Holloway, Principal Environmental Planner  
Mr T Teoh, Executive Manager, Development

**CitiPower and Powercor Australia**
Mr R Herrmann, Manager Regulation  
Mr N Watt, Manager, Network Assets Strategy and Performance

**Tract Consultants on behalf of Union Fenosa Wind Australia**
Mr A Terrill, Associate
27 July 2009 – Melbourne

**Tenax Energy**
Mr A Major, Director

**Ceramic Fuel Cells**
Mr B Dow, Managing Director

**Vestas Australian Wind Technology**
Mr K McAlpine, Government Relations Manager

**AGL Energy**
Mr A Cruickshank, General Manager, Energy Regulation
Mr N Bean, Head of Generation Development

**Alternative Technology Association**
Mr I Porter, Chief Executive Officer
Mr D Moyse, Energy Policy and Projects Manager

**Private individual**
Mr D Sparks

10 August 2009 – Melbourne

**Environment Victoria**
Mr M Wakeham, Campaigns Director

**SMARTimbers Cooperative**
Mr A Lang, Chairman

**Environment Defenders Office**
Mr B Sydes, Principal Solicitor
Ms N Rivers, Policy and Law Reform Director

**Western Plains Landscape Guardians Association**
Mr P Mitchell

**Aboriginal Affairs Victoria**
Mr I Hamm, Executive Director
Mr J Moon, Acting Manager, Heritage Policy
Mr H Webber, Senior Policy Officer

**Acciona Energy**
Dr I Lawrie, Manager, Planning
24 August 2009 – Ararat

**Ararat Rural City Council**
Mr S Chapple, Chief Executive Officer  
Mr M Hogan, General Manager, Development Services  
Mr E McColl, Planning and Building Manager  
Mr C Humphries, Economic Development Manager

**Ararat Greenhouse Action Group**
Mr R Pearse, Chairman  
Mr D Scherger, Executive Member

**Grampians-Glenthompson Landscape Guardians Inc**
Mr B Rogerson  
Mr J Pollard  
Mrs R Pollard  
Mr A Lyon  
Mrs H Lyon  
Mr B Keen  
Ms H Barker

**NewEn Australia Pty Ltd**
Mr E Weyhausen, Managing Director  
(by teleconference)

**Renewable Energy Systems Australia**
Mr C Sweatman, Chief Operating Officer  
Mr S Erol, Project Manager, Ararat Wind Farm

7 September 2009 – Port Fairy

**Moyne Shire Council**
Mr B Stonestreet, Chief Executive Officer  
Mr R Guest, Manager, Strategic Planning

**City of Warrnambool**
Mr A Paton, Business Development Officer

**Corangamite Shire Council**
Ms S Segafredo, Manager, Strategic Planning and Environment

**Framlingham Aboriginal Trust**
Mr N Martin, Projects Manager  
Mr G Clark  
Mr A Clark
Gunditj Mirring Traditional Owners Aboriginal Corporation  
Mr D Bell, Chairperson  
Private individual  
Mr H Cumming  

8 September 2009 – Port Fairy  

Macarthur-Hawkesdale Landscape Guardians  
Ms A Gardner  
Mr G Gardner  
Mr K Reef  
Mr R Jelbart  

Department of Planning and Community Development  
Mr K Jackson, Regional Director, Grampians and Barwon south west regions  
Mr M Gregory, Senior Regional Planner  

Department of Sustainability and Environment  
Mr G Hull, Group Manager, Biodiversity Services, south west Victoria  
Mr A Gosden, Land Use Planner, Biodiversity Services, south west Victoria  
Mr A Pritchard, Teamleader, Biodiversity Services, far south west Victoria  

Hot Rock Limited  
Dr M Elliott, Managing Director  

28 September 2009 – Adelaide  

Wattle Range Council  
Mr M Braes, Mayor  
Mr F Brennan, Chief Executive Officer  

Department of Transport, Energy and Infrastructure  
Mr S Kelly, Executive Director, Energy  

Department of Planning and Local Government  
Mr P Smith, Director, Assessment  

Primary Industries and Resources South Australia  
Ms A Long, Project and Research Engineer  
Mr T Hill, Principal Geologist  
Mr J Zabrowarny, Manager  

RenewablesSA  
Mr T O'Loughlin, Deputy Chief Executive and Acting Renewable Energy Commissioner  

Aboriginal Affairs and Reconciliation Division, Department of the Premier and Cabinet  
Ms A Stimson, Executive Consultant
Appendix 2: List of public hearings

Mr D Hancock, Senior Project Manager

Australian Geothermal Energy Association
Ms S Jeanes, Chief Executive

Petratherm
Mr P Reid, Exploration Manager

29 September 2009 – Adelaide

AGL
Mr T Knill, Manager, Power Development

Environmental Defenders Office
Ms R Beach, Solicitor
Mr R Cook, Law Clerk

Australian Energy Market Operator Ltd
Mr J Howarth, Executive General Manager, Transmission Services
(by teleconference)

Wyatt and Associates
Mr D Wyatt, Principal

Carnegie Wave Energy Ltd
Mr G Allen, Chief Operating Officer
(by teleconference)
Appendix 3: List of site inspections and briefings

22 June 2009 – Melbourne

_Briefing – Victorian Government_

**Department of Primary Industries**
Mr R Bolt, Secretary  
Ms M Lourey, Executive Director, Energy Sector Development

21 July 2009 – Melbourne

_Briefing – Victorian Government_

**Department of Sustainability and Environment**  
Mr P Harris, Secretary  
Ms K Dripps, Executive Director, Biodiversity and Ecosystem Services  
Mr I Voigt, Director, Statewide Services  
Ms J Fraser, Director, Groundwater and Licensing

**Department of Planning and Community Development**  
Mr J Gilmore, Executive Director, Planning Policy and Reform  
Ms G Cann, Senior Policy Officer, Statutory Initiatives  
Mr T Blake, Chief Environment Assessment Officer

**Department of Primary Industries**  
Ms M Lourey, Executive Director, Energy Sector Development  
Mr A Panow, Director, Energy Investment  
Mr G Dawson, Principal Policy Officer, Energy Investment
25 August 2009 – Ararat

**Briefing and site inspection**

- **Pacific Hydro**  
  Ms C Maries, Policy Manager  
  Mr S Blackie, Wind Farm Supervisor  
  Mr T Teoh, Executive Manager Development

- **Challicum Hills landholders**  
  Mr G Maconachie  
  Mrs L Maconachie

31 August 2009 – Melbourne

**Briefing**

- **New South Wales Department of Planning**  
  Ms Y Stone, Director, Policy, Planning Systems and Reform

8 September 2009 – Port Fairy

**Briefing and site inspections**

- **Pacific Hydro**  
  Mr R Holloway, Principal Environmental Planner  
  Mr D Halstead, Construction Manager

  **Site inspections**
  - Wind farms sites near Yambuk, Cape Bridgewater and Cape Sir William Grant in southwest Victoria
  - Keppel Prince Engineering, Portland
MINORITY REPORT ON INQUIRY INTO THE APPROVALS PROCESS FOR RENEWABLE ENERGY PROJECTS IN VICTORIA

The need for sustainable and renewable energy will continue to place demands for planning and development of these important facilities.

It will be increasingly important to engage and consult local residents whose lives, livelihood and environment may be impacted upon by these developments.

The wind atlas introduced in 2003 by John Thwaites was the preliminary phase of identification of suitable wind energy sites. A subsequent consultation phase with local government would have enabled greater capability and understanding of the planning complexities facing local councils and residents and landholders.

Unfortunately the Brumby government chose to exclude local government from planning for wind turbine developments over 30Megawatts. It is also regrettable that the Brumby government did not see fit to provide adequate resources to local government to deal with the complexities of planning for wind farm developments less than 30 Megawatts. Local government needs to be given the tools and resources to ensure proper planning at a local level is carried out.

Local communities in some cases welcome wind energy developments others feel that these facilities may have negative impacts on health, wellbeing and amenity.

It is felt that there is insufficient financial compensation across the broader community to ensure acceptance of these impacts on residence.

Establishment of clear guidelines are needed to assist in the development of constructive relationships between residents and wind farm proponents.

Local knowledge of the topography, the environment, flora and fauna needs to be taken into consideration in the planning approval process.

Concerns were raised about limited EES processes being included in areas which have a zoning of Rural Conservation or Environmental
significance overlay. An EES would normally be required to assess the impacts of a development on listed flora and fauna to ensure protection of our biodiversity.

Those below who have signed this minority report believe that local government is best placed to reflect the community on planning issues and should not be excluded from the planning process of wind farms as recommended by the majority of the committee and thus recommend:

**Recommendation**

- Local councils to be the planning authority for all Wind power plants.

Christine Fyffe  
Donna Petrovich  
Peter Walsh
Extract from the minutes of proceedings

22 February 2010

The Minutes of the proceedings of the Environment and Natural Resources Committee show the following division which took place during consideration of the draft report.

Question: That recommendation 5.5 be amended with the insertion of the word ‘commercial’ before ‘wind energy facilities’ and stand part of the report – put.

The Committee divided:

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<tr>
<th>AYES – 5</th>
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<tbody>
<tr>
<td>Ms Joanne Duncan</td>
<td>Mrs Christine Fyffe</td>
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<tr>
<td>Mr Craig Ingram</td>
<td>Mrs Donna Petrovich</td>
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<td>Ms Tammy Lobato</td>
<td>Mr Peter Walsh</td>
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<td>Hon. John Pandazopoulos</td>
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<td>Mr Matthew Viney</td>
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Question agreed to.