30 November 2011

Mrs Jan Kronberg MLC
Chair
Outer Suburban Interface Services and Development Committee
Parliament of Victoria
EAST MELBOURNE VIC 3002

Inquiry on Growing the Suburbs: Infrastructure and Business Development in Outer Suburban Melbourne

Dear Mrs Kronberg

Thank you for the opportunity to make this submission to the Outer Suburban Interface Services and Development Committee’s inquiry on Growing the Suburbs.

I would like to offer my support for this inquiry and the broad terms of reference of the Committee. It is a timely and important piece of work that will compliment well the parallel inquiry into liveability options for outer suburban Melbourne.

As part of my role as Commissioner for Environmental Sustainability I keep abreast of the latest thinking on environmental issues both in terms of policy and business. The attached submission is focussed on three areas of emerging thinking and practice that offer significant economic opportunity for Victoria:

- The Green Growth Agenda
- The need to adapt infrastructure to climate change
- Clean Energy.

These issues are directly relevant to the Committee’s inquiry, especially terms of reference (c), (f) and (g). I would encourage the Committee to consider carefully how the Victorian Government can work with the private sector to develop effective responses to these issues in an outer urban context.

I would welcome the opportunity to discuss this submission with the Committee at the appropriate time.

Yours sincerely

[Signature]

Professor Kate Auty
PhD, MEnvSc, Dip Int Env Law (UNITAR), BA(Hons)LLB
Commissioner for Environmental Sustainability Victoria
Inquiry on Growing the Suburbs: Infrastructure and Business Development in Outer Suburban Melbourne

SUBMISSION FROM THE COMMISSIONER FOR ENVIRONMENTAL SUSTAINABILITY

Introduction

Melbourne’s outer suburbs are currently growing faster than any other area in Australia. The rate of expansion is greater than any area of Australia has experienced in known history, with more than 1,000 new people a week taking up residence on Melbourne’s fringe.¹ This growth presents us with significant opportunities, and is also creating pressures on infrastructure, liveability and the environment.

At the same time, across the world policy makers are confronting a range of new challenges to traditional models of economic and urban development. Evidence continues to mount that the unintended consequences of classical approaches to economic growth (e.g. environmental degradation, habitat loss, and carbon pollution) are placing unprecedented strains on the natural systems that underpin the economy.

The growing acceptance of this evidence and understanding of its implications is driving significant changes within businesses and governments. As a result, international best practice is shifting markedly across:

- the measurement of economic performance (the OECD is now actively promoting a green growth model)
- the design of long lived infrastructure (major projects are factoring in expected climate change)
- energy generation and supply (clean energy and more distributed generation is now a major focus).

Recognising the changes that are underway and developing smart responses to them in an outer urban context is a key opportunity for Victoria. We are not the only region of the world confronting the challenges of rapid urbanisation and the continued expansion of major cities. Many of the countries where these issues are particularly acute are in Asia, a market Victorian businesses are very well placed to serve.

Solutions developed in Victoria can be readily exported and create attractive growth opportunities for the local businesses involved. And we can learn from our neighbours too – ambitious programs for greener cities are already underway in many countries in our region including Korea², Japan³ and the United Arab Emirates.⁴

This submission will focus on these topics and is most relevant to terms of reference (c), (f) and (g).

² In Korea, New Songdo City is being designed to emit only one third of the greenhouse gases of a similar size city and become the commercial hub of Northeast Asia (www.songdo.com)
³ In Japan, The City of Kitakyusyu has been focussed on improved environmental performance since 1970. It is has set itself the objective of being the World Capital for Sustainable Development (http://www.city.kitakyusyu.lg.jp/english/file_0064.html), and has recently been selected by the OECD as a Green Growth Model City (http://www.iclei.org/index.php?id=14876&tx_ttnews%5Btt_news%5D=4693&tx_ttnews%5BbackPid%5D=983&cHash=d0920769b9)
⁴ In the UAE, Masdar City is being developed with the objective of being one of the most sustainable cities in the world and global clean technology cluster (http://www.masdar.ae/en/Menu/index.aspx?MenuID=48&CatID=27&enrCat)
Measuring economic performance – the Green Growth Agenda

In June 2009, in the midst of the global financial crisis, Ministers from 34 countries (including Australia) signed an OECD Green Growth Declaration, in which they committed to: "Strengthen their efforts to pursue green growth strategies as part of their responses to the [global financial] crisis and beyond, acknowledging that green and growth can go hand-in-hand."

The OECD considers Green Growth is a means of "fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it (Green Growth) must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities."

Since the declaration was signed, the OECD has been working to develop "a Green Growth Strategy, bringing together economic, environmental, social, technological, and development aspects into a comprehensive framework." A key element of this strategy is building tools that enable governments to measure the changes in natural capital that occur as a result of economic growth. These tools are being used by the OECD to track progress at a country level through incorporation of natural capital data in its regular economic surveys of members.

The OECD considers that current growth patterns are eroding the natural capital base, and pose a threat to continued growth for two main reasons:

- the rising cost of substituting physical capital for natural capital (eg: construction of desalination plant and other infrastructure to address declining water availability)
- the potential for unpredictable and disruptive changes to natural systems (eg: stocks of some fish species have been known to abruptly collapse after years of slow decline).

The current rapid expansion of the Melbourne’s outer suburbs provides an ideal setting for the Committee to consider how current patterns of urban development impact the potential for Green Growth. Key questions include:

- Does the current development model erode or enhance Victoria’s natural capital base?
- What are the specific risks for Victoria as natural capital declines?
- How could we adjust the development model to deliver more Green Growth outcomes?
- What government interventions would be required to enable these changes to occur?

Developing effective answers to these questions in conjunction with the private sector will unlock significant opportunity for the Victorian Government and its business partners. Government would benefit from the delivery of a more robust program of development for Victoria, while the private sector will gain valuable knowledge and develop products that can be exported to other markets.

The design of long lived infrastructure – bracing for change

Climate change poses a physical risk to Victoria’s infrastructure and economic risks to those reliant on it. The economic risks are particularly acute for individuals and businesses involved in infrastructure design, construction, ownership and management.

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6 Towards Green Growth: Summary for Policy Makers, p6, OECD 2011
7 Towards Green Growth: Summary for Policy Makers, p3, OECD 2011
8 Towards Green Growth: Summary for Policy Makers, p4, OECD 2011
9 This is evident in Victoria, with water costs rising due to the need to invest in a $5.78 desalination plant at Wonthaggi to improve water security. – see eg Melissa Fyfe, "Water bills to double again" The Age, October 31, 2010 (http://www.theage.com.au/victoria/state-election-2010/water-bills-to-double-again-20101030-17899.html)
The scientific evidence tells us that our climate is becoming hotter, drier and more prone to extreme events. By 2030 Victoria is likely to experience.  

- average temperatures 0.5-1.5°C higher than 1990 levels
- more hot days and fewer cold days
- widespread decreases in atmospheric moisture, plus increases in daily rainfall extremes
- increased fire-weather risk.

These changes present an issue because they have not been factored into the design of the majority of Victoria's infrastructure. Traditionally, the design approach has been to adopt standards that can accommodate events of a certain frequency (e.g., the 1:100 year flood) based on historical records. As a consequence there are significant risks that infrastructure will fail earlier and/or more frequently than expected.

The extent of this issue for Victoria was comprehensively examined in a report commissioned by the Victorian Government in 2007. This work concluded that by 2030 there are significant risks across a number of infrastructure elements, including water, power, telecommunications, transport and buildings.

Since that report was completed, a body of further work has been undertaken by both the public and the private sector. Awareness of the issue has improved greatly, particularly in relation to major projects and coastal assets. For major projects this has largely occurred as a result of the scale of investment, while on the coasts there have been increasing numbers of planning authorities factoring the potential for sea level rise into their decision making.

The ongoing evolution of the science and engineering practice means that this will be a dynamic area for some time to come. A lot of work remains to be done, especially in respect of smaller projects and non-coastal assets. Ensuring that these issues are managed appropriately as new infrastructure is built is a key risk issue for the Victorian Government (given the long term threat to productivity and investment posed by infrastructure failures). A high growth environment such as the outer suburbs is the ideal area to focus initial efforts on developing an effective response. Failure to do so will increase risks to Victorian Government, businesses and the community generally.

Energy generation and supply – cleaner and less centralised

Global interest in clean energy technology is growing rapidly. Governments, businesses and individuals are increasingly attracted to energy sources that are low or zero carbon, smaller in scale and located closer to the point of consumption. They are also focussing more closely on ways to improve their energy productivity, by cutting down on waste. This demand for cleaner, more distributed energy solutions is being driven by a range of factors including:

- concern about rising energy prices
- the impact of government focus on carbon reduction
- the falling cost of new technology.

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12 See, for example ‘Climate Change Risks to Coastal Buildings and Infrastructure’, Australian Government, Department of Energy Efficiency and Climate Change, 2011 (http://www.climatechange.gov.au/_media/publications/coastline/risksofcoastalbuildings.pdf);
14 A good overview of global trends in this area is set out in “Planning for coastal climate change - An insight into international and national approaches”, Global Cities Institute, RMIT, June 2009 (http://www.water.vic.gov.au/_data/assets/pdf_file/0017/73259/Planningforallclimatechangev1.pdf)
Concern about rising electricity prices has been growing since around 2007, when Australia came out of a long period of stable prices that began around 1990. Prices are expected to continue upwards for the medium term, driven by the need to upgrade network infrastructure, reduce carbon emissions, and add capacity to meet peak demand. This trend is well understood by business and the public generally, and is the subject of regular media comment.

Government carbon reduction programs have been growing across Australia over the past 5 years, in response to increasing individual concerns about the impact of climate change and strengthening scientific evidence. Individual and businesses have been increasingly focused on identifying tangible actions that they can take to reduce their contribution to the problem and avoid the costs increases associated with high carbon usage. This trend is likely to continue as the scale of change required is better understood and accepted.

The falling cost of clean energy technologies is being driven by increasing technical maturity and growing production capacity. Solar panel prices fell by 40% over the past year, and are expected to decline further in the medium term. LED lights and other technologies are following a similar path.

Harnessing this demand offers the Victorian Government an excellent means to grow the outer suburbs and create significant business opportunities for both local consumption and exports. It also provides a means to reduce the demand pressure that has built up in the electricity network over the past few years, and better align supply and demand.

In the context of new urban areas, there is the potential to add generation capacity locally that matches the expected increase in demand with low carbon energy sources. This approach will deliver environmental benefits, and provide stronger incentives for consumers to consider the energy performance of any new buildings at the design stage.

Achieving this will require changes in the way we think about and approach energy supply for new development. The traditional model of a one way network that takes electricity from remote, large scale generators to a collection of small energy users will need to evolve towards a multidirectional network that can accommodate the evolving needs of businesses and individuals.

Again, a high growth environment, such as Melbourne’s outer suburbs, is an ideal setting in which to develop solutions to this challenge, and doing so has the potential to create significant opportunity for all involved.

Conclusion

The high growth rates of Australia’s outer suburbs present Victorian Government and business with significant opportunities, but also creates pressure on infrastructure, liveability and the environment. Through this inquiry, the Outer Suburban Interface Services and Development Committee has the opportunity to assist the Victorian Government to chart a course that maximises the opportunities and manages the pressures effectively.

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17 This has been a key element driving the dramatic growth in domestic solar installations. At the end of December 2010, Australia had installed 571MW of domestic solar, and a further 762MW is expected to be installed by December 2011, bringing the total installed capacity to 1,333 MW (Nic Bazzale, presentation at Green Energy Markets REC Quarterly Review event, Melbourne, November 2011).
16 The IEA’s 2011 World Energy Outlook concludes that limiting climate change to a 2°C increase is increasingly challenging - approximately 80% of the carbon emissions from the energy sector consistent with this are already locked in by existing and planned assets (http://www.iea.org/woe/docs/weo2011/pressrelease.pdf)
15 Leslie Hook and Ed Crooks, "China’s rush into renewables: The way the world turns" Financial Times, 28 Nov 2011 (http://www.ft.com/cms/s/0/0502a28a-13c0-11e1-a691-00144feabdc0.html#axzz1f61hezeU)
A key component of achieving this will be to draw on the latest international thinking and practice around green growth, infrastructure design and clean energy. This will enable the government to build a framework for outer urban development which will enable the private sector to develop knowledge and solutions that can be profitably applied locally and in other markets.

For these reasons, the Committee should consider carefully how the Victorian Government can work with the private sector to developing effective responses to these issues in an outer urban context.