

# CORRECTED VERSION

## ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

### Inquiry into Sustainable Communities

Melbourne – 11 July 2004

#### Members

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Research Officers: Mr David Fairbridge

#### Witnesses

J. Bergquist, Chairman; I. Oikari, Principal Administrative Officer,  
Swedish Environmental Objectives Council  
A. Yauvoli, Senior Policy Advisor, South Pacific Environment Program

**The CHAIR** – Thank you very much for agreeing to meet with us today. Our committee has a relatively new term of reference – sustainable communities. We have been asked to look more at the household level rather than industry – but local communities and households, how we can increase the rate of recycling to reduce energy use and to save water. It is a very broad term of reference. We particularly want to look at local communities and the householder sector. I am not sure whether you are familiar with the fact that we have three tiers of government – federal, state and local. We have a very vigorous local government sector, and it has the responsibility for waste disposal and collection. But I suppose from at the state level we want to see just what sorts of things we can encourage and whether regulation is the best way. We have not been, I suppose, a country – particularly not a state that’s over-regulated, but we will probably get to the stage where we have to balance all of those things, and that’s what we’ve just started to turn our minds to. Sweden is very much one of the countries we all look to for environmental leadership, so if you could go through some of the things that come to your mind to lead us in the right direction, that would be wonderful. We will also see how the South Pacific is going. There’s certainly some progress being made.

**Mr BERGQUIST** – Do you want us to start. Yes? And to do long speeches? My wife always says to me when she is present – she does this (indicates) when she thinks I should stop talking.

**Ms DUNCAN** — In Australia we just walk out the door!

**Mr BERGQUIST** — But I think you can interrupt. First of all, thank you for your kind words of welcome. We, of course, are happy to be here as I think we have much in common. I think maybe we should start by introducing ourselves and then we can begin.

**Ms OIKARI** — I am working at the Environmental Objective Council’s secretariat, a secretariat of seven people – all answerable to council. Our secretariat is situated at the Environmental Projection Agency in Sweden. I have worked there for two and a half years, from the beginning of the council.

**Mr BERGQUIST** — I have been a member of the Swedish Parliament for 34 years, but I decided not to run in the last election – not because I was tired, but because I saw a special opportunity for me to combine the three aspects of sustainable development. First, the social dimension as a chairman of the board of the biggest hospital in Sweden, and then the economic dimension, as the chairman of the general council of the Central Bank of Sweden, and then last but not least, the ecological dimension as chairman of the Environmental Objectives Council. So that’s my background.

Maybe I can give you some background from Sweden. First of all, maybe I should give you a warm, warm summer’s welcome from Europe. We are happy because the European Union has been enlarged from 15 member states to 25 out of a total of 47 states in Europe, and we think that will be very important for peace and security and will also strengthen our endeavours to improve the environment. I’m quite confident it will. However, Europe has great concerns about climate change. Our average temperature has increased. Europe’s glacier regions are in retreat, and we experience more and more weather and climate-related events, such as floods, storms and droughts. The hot summer last year claimed possibly 35 000 lives, mainly in southern Europe. A conservative estimate of the bill – the average bill every year from the European Environment Agency is some A\$2 billion for these catastrophic events.

Sweden is a country of modest size with nine million inhabitants and a half million square kilometres, but we try to make our voice stronger by being active in the European Union. Our strategy for sustainable development is based on the following core areas: population and public health; social cohesion; welfare security; employment and learning; sustainable economic growth; regional development; limitation of climate change, and the future environment. We have a fairly successful environmental policy, I would say, but before we knew it, our Parliament had adopted almost 200 environmental objectives. As you know, and we should have known, if you give priority to everything, in fact you don’t give priority to anything, so we had to rethink, reflect and reform.

Out of the chaos of the objectives came something new. The main question, of course – the crucial question – was how do we get rid of this tyranny or short-term preoccupation that governs so much of our lives? And how do we liberalise ourselves from all this commercial and political fragmentation? How do we replace all this short-term preoccupation with long-term determination to grant a good and healthy life to our next generation?

First of all, we agreed to say goodbye to these almost 200 objectives and replace them with 15 national environmental quality objectives, and most of them were to be attained within one generation. Then we also agreed on a formally organised system of evaluating and following up with a fixed schedule for decision making and strategies that allow different political majorities to change the mix of

tools while keeping the pace towards the objectives. One might prefer different strategies, for instance trade certificates and tax reliefs, while another majority may want to mix with more regulation and more tax increases.

The Environment Objectives Council is a child of far-reaching expectations and visions. It was formed with a task to report every year, with its appraisal of progress towards these objectives – what are the prospects for the main environmental objectives to be achieved in due time? At least once every election period the government has to present a Government bill on the objectives and, to introduce the concrete measures needed in order to keep the pace towards the objectives. The council must not, of course, embellish reality. We must present the problems as they are; but on the other hand, we must try to give our warning signal in such a way that we don't unnecessarily suppress motivation and enthusiasm. So after presenting all the problems, our message to all involved is the same as the classical advice to the hurdle racer – full-speed ahead at once, and then to increase your speed more and more. So that's the background, in short.

**The CHAIR** — Okay, thank you. Goodness.

**Mr BERGQUIST** — And, of course, we are very interested to hear about your experience and the differences. We know, for instance, that with water management you have lots of good experience. We are beginning to work with these issues now. We have a new frame directive from the European Union. We have a heated debate in Sweden just now about traffic congestion and the possibility of tollgates – and I know that you know lots of these things.

**The CHAIR** — Just a bit.

**Mr BERGQUIST** — And, of course, we have the very difficult question – how to change habits of consumption and production in a more sustainable way, how to change attitudes and lifestyles. That's an important but very difficult question, and we would like to hear what you have to say about these issues.

**The CHAIR** — One of the things we'd like to raise is the trend for Sweden to incinerate its waste, and why you decided on that particular method rather than looking at the gas from the biomass.

**Mr BERGQUIST** — Yes, you can start on that.

**Ms OIKARI** — In Sweden there is a discussion going on among the experts whether the best way of taking care of the waste is recycling or if the best way is in separation. But Sweden's point of view is that recycling is the most – or the better way for the environment. So I think from the Swedish viewpoint we are trying to recycle most of the waste. But, of course, the waste is increasing, and is predicted to do so in the future, so the discussion is ongoing – of course, the costs of the recycling compared to using the waste for increasing. I think also it's a discussion that will go on, and perhaps we will do more on the recycling in the future. I don't know.

**Mr BERGQUIST** — Of course, the foremost objective is to generate the least waste; that's foremost. We have had local investment programs that have encouraged producers to introduce biogas more and more, the idea being, of course, that the waste from which biogas can be put to use instead of ending up in the rubbish tip or being incinerated – what is the best thing? And you can see more and more cars on biogas, more and more other vehicles. It's an ongoing process.

**Mr SEITZ** — Is the heat captured from the incineration self-generating or do you have gas turbines maintaining the heat?

**Mr BERGQUIST** — We have district heating, and we try to connect to – especially in the urban areas – it's easy with district – also in other areas with not too scarcely populated areas, we try to combine it with district heating.

**Ms DUNCAN** — Sorry what's district heating?

**Mr SEITZ** — It's central heating – what they call – the pipelines everywhere.

**Mr BERGQUIST** — Maybe I should say central heating then.

**Ms DUNCAN** — So that's gas-fired or –

**Ms OIKARI** — No, electricity.

**Ms DUNCAN** — Electric?

**Ms OIKARI** — Yes, I think so.

**Mr BERGQUIST** — It could be mainly, but it could also be for heating. We are a cold country, as you know. We need lots of heating energy, and it has been very successful this central heating we choose for heating and for electricity. And I think it's also in the future –

**The CHAIR** — Do you have recycling programs for old TVs and computers? Do you have a system whereby people can take their – you know, when they're getting a new TV or a new computer – do you have those disposal mechanisms set up?

**Mr BERGQUIST** — Yes. First of all, we try to introduce responsibility for the producers to take for what they produce; that's the main thing. And then, of course, we don't succeed in every case. I can't report on any special program for taking care of TVs. I don't know –

**The CHAIR** — But if you were to buy a new TV, would the old one – if you wanted, would the shop take it back? Could you take it back to the producer?

**Mr BERGQUIST** — Nowadays they are obliged to do that.

**Ms DUNCAN** — Obligated to pay. Do they pay a levy; or how do they pay for that service? It's not a cost on to the new TV or anything; there's no charge when you buy the one?

**Mr BERGQUIST** — No. Of course, you could say that it might be an indirect cost, but not that much a cost.

**The CHAIR** — There's no identifiable levy for that?

**Mr BERGQUIST** — No.

**Ms OIKARI** — No.

**Mr BERGQUIST** — And when it concerns cost, the principle is the same; but in time, of course, the producer may be difficult to find. We have a grant if you scrap your car in an environmentally friendly way in order to get better new vehicles –

**The CHAIR** — So there's actually a payment system. Is there a grant or a rebate if you are disposing your car and you dispose of it in a certain manner – if it's a car and the company is no longer around?

**Mr BERGQUIST** — Yes, a payment system. That's right.

**Mr SEITZ** — Batteries from the torch – we all have little electric gadgets that have batteries; do they have to be recycled? The batteries from torches, from lights – everything's got batteries today.

**Mr BERGQUIST** — Yes, that's right. We try to sort waste, including batteries, so it should be near every – not exactly every house – but every combination of houses. There should be a station where you can sort and put batteries and then put other things – you sort them in different kinds of ways – the plastic and the paper and so on.

**Ms OIKARI** — In fact, Sweden had a big battery campaign several years ago, so I think in people's mind there is a natural way that you take care of all the batteries.

**Mr BERGQUIST** — They shouldn't go to the general waste.

**The CHAIR** — So your general – your waste, though – in some areas of Melbourne we have what we call the three bins. One bin takes garden, grass cuttings and trees – you know, little tree limbs and leaves; the other one is split down the middle – one side is paper and the other side is glass and plastics; and then you have your garbage – you know, your other waste. So you would have a different system whereby you –

**Mr BERGQUIST** — Well, maybe it's the same, but with more variations maybe. I think it's six or seven; you have to choose between six or seven bins.

**Mr HILTON** — I want to ask about energy. I presume an objective of your council is to get people to use less

energy in their houses and their homes. Do you go about subsidising really energy-efficient products like double-glazing or insulation; or is your approach to maybe charge people more if they use more energy?

**Mr BERGQUIST** — We have done both, but it has varied during the different periods. During the oil crisis in the '70s we weren't much giving grants to people for energy saving, and so on. But later on we increased our taxes rather much. I think we were the first country in the world to introduce a carbon dioxide tax. We also have recently raised tax on electricity pretty much. So we use taxes, but we have also – for instance, when you build a house or rebuild a house, you can free of charge go to an energy consultant in the municipality and ask which is the best solution, the least expensive and the best energy-saving solution, and you can get help.

**Mr HILTON** – So the government pays for that service?

**Mr BERGQUIST** — Yes, that's right.

**Ms DUNCAN** — It's just an advisory service?

**Mr BERGQUIST** — Yes, that's right.

**Ms DUNCAN** — So there's no obligatory standards of building materials? A house has to have X this and this and this and this and this?

**Mr BERGQUIST** — Of course – also some claims of building materials, and in fact in one issue we have been successful, and that is the decoupling growth from using more energy in the energy sector. Then I must make an exemption for the transport: if you take away transport, which is an enormous problem – in fact, we have succeeded in improving energy saving and energy efficiency very much, and there's lots of measures, of course – building and changing, and all these things, and all these tax incentives or tax levies. In fact, we can see that when it concerns the energy sector, except for transportation, we have an expansion of our economy, but we have not had the same expansion of energy in the general energy sector. Unfortunately, we have the problem in the transport sector.

**Mr HILTON** — When you say you've increased taxes to encourage people to use less energy – there's always a social argument that poor people can't afford to pay more, so they're penalised. Has that been an issue in Sweden?

**Mr BERGQUIST** — Yes, but we have sort of tried to solve that issue with a tax change. We increased taxes on energy and environmental hazardous activities, and then we reduced taxes on labour. So we have a system and a program for this tax change. In a 10-year period we will change and increase environmental hazardous taxes by \$30 billion Swedish crowns and reduce taxes on labour by \$30 million Swedish crowns. One Australian dollars is 5.50 Swedish crowns.

**Mr HILTON** — You mentioned you tried incentives or subsidies on more efficient building – double-glazing or insulation – and then you go on to the tax side. Is that because the subsidies weren't working?

**Mr BERGQUIST** — Yes, they were problematic in many ways. You didn't always get the best technical solutions, and it's difficult to define because the technical solutions are changing all the time. When you take a decision in parliament, you give a subsidy to certain technical solutions and then you find out that it would have been better to have other technical solutions. That has meant that we have changed several times when it concerns subsidies. We still have them, but they are sometimes difficult to even – not as exact as they should be –

**Ms LOVELL** — When it comes to sustainability, do you think that Sweden is leading the way in Europe? Or how do you think that you compare to other countries? Are there other countries that you can tell us about that have very good programs?

**Mr BERGQUIST** — Yes, I think the Nordic countries have generally good programs. When we became members of the European Union, we thought that we were the best in the class. We found out that in many areas we weren't – and in fact it has been very good for Sweden to have these European Union directives because it has meant in areas where we were not so good, we have reinforced the check. So I don't know, but I think that being proactive in the European Union, working for better environments, many countries that are progressive – the Netherlands and other examples. And the European Union is improving more and more. We are happy to have a Swedish commissioner for environment.

**The CHAIR** — We're still having the debates in Victoria about the planning regulations around wind farms, because

we have a target. I think it is 10 per cent, is it George? 10 per cent for renewable energy. Where is Sweden along the road on renewable energy?

**Mr BERGQUIST** — If you take the totals, renewable energy is 29 per cent, but wind energy is very small, it's only 0.4 per cent of the total. And Denmark, for instance – they have come a long way in wind energy. We have had these discussions about the effects on nature, and so on, and wind energy has proven more expensive than other alternatives. But we have it as a program to expand it, and we're trying to expand it by different tax reliefs and subsidies, and so on. But the expansion is delayed by the discussions about “Should we have them here?” and that takes two years and maybe three years to have them there.

**The CHAIR** — We have the same problems.

**Mr BERGQUIST** — So it takes time. I don't think wind energy will take a substantial part of Swedish energy in the next 10 years. I don't think so, even if it will increase its share.

**The CHAIR** — So what are your main renewable energy sources?

**Mr BERGQUIST** — From the forest. More than 50 per cent of our area is forests, so that means we use forest products very much in order to heat – for heating, and so on.

**Ms DUNCAN** — Wood?

**Mr BERGQUIST** — Wood, yes, different kinds of wood.

**Mr HILTON** — So do you call that renewable?

**Mr BERGQUIST** — Yes, we do, since we plant new every year and –

**Mr HILTON** — Oh, okay.

**Mr BERGQUIST** — We plant new forests, so they are renewed.

**The CHAIR** — So it's a renewable; it's a system whereby you use, you grow, you use, you grow, yes. Excellent. Caroline or David, do you have any questions at this point?

**Ms WILLIAMS** — I just wondered if we could talk about the EU directive on water and what that is going to mean for Sweden.

**Mr BERGQUIST** — Well, I'm afraid that we don't have the details. But in a general way I think it's an example of a progressive directive, and for Sweden it would mean that we would have to organise our administration in a more structural way – a better way, I think. We will have five district bases in charge, and we will change our legislation and get a better control, I think. We have sort of neglected the water in Sweden, except for sanitation; that aspect we have worked very much with. In fact, we have lots of water, and compared with the rest of Europe, the quality of Swedish groundwater is excellent. But that doesn't mean that measures shouldn't be taken. Supplies of drinking water are relatively good, but that doesn't mean we don't have areas where there might be shortage. This general feeling, that we are blessed with water, has meant that our efforts in the water framework directive will be very positive for Sweden; we have to deal with this in a more structured way than before.

**The CHAIR** — We might see if Amena wants to talk to us about the South Pacific, and then we can a general swap of information.

**Mr YAUVOLI** — Madam Chair, thank you very much for inviting me to this meeting. First of all, let me convey the apology from my director. I understood he was invited initially but could not make it due to other preoccupations. I also thank the committee for inviting SPREP to be a part of this inquiry, and am confident that the lessons learnt from this exercise will bolster the policy formulations with regard to the State of Victoria.

In the Pacific, as you know, the South Pacific Regional Environment Program based in Samoa is made with the responsibility of ensuring that the Pacific Island States, or the small island states in the Pacific, undertake – are guided with policy formulations with respect to environment protection and how they can sustainably manage their resources. At the international level we have improved the quality of life for all Pacific Islanders in achieving natural or sustainable development. I understand, from various discussions I have had with Caroline, that the theme for today is just energy, waste

and water, and these are critical components of ensuring sustainable development in the Pacific Islands.

Let me go briefly to energy. Energy has a vital role, that's funding for sure that we cannot deny in the region. As you know, most, if not all, countries in the Pacific Islands region depend a lot on fossil fuels, and the move is towards renewable energy – and note the politics behind energy; those who have been involved in the global arena. It's been quite a difficult task for us, first with capacity, second with the cost of energy. It's quite a concern. But I think that has not stopped us from pursuing renewable energy. The Pacific region has targeted for renewable energy. For instance, in Fiji I've been told that they are targeting 2015 for renewables. I don't have the exact figures with me. I was told on the way out of the country, and this is quite a significant move towards that. At the same time, the concern for us is the security of energy supply. Given the limited storage for bulk petroleum, this is a concern that the Pacific Islands and developing countries have. And I am sort of encouraged by the way the Swedish are doing all these things, especially with renewable energy. I know we've entered a program with the government of Denmark to try to develop renewable energy, and also with the European Union. These are some of the outside problems that we have.

But for us for the future, given our islander nature – our vulnerable ecosystems – we have somehow to coordinate our energy program, and this coordinated program is being looked at. It is called the Pacific Islands Regional Environment Energy Program. It is a pilot and I can give you more information on it later. You know, it's so much information, but the purpose of this is to develop a means of coordinating the energy programs in the region, and also to put on the table all our donor agents – including Australia, New Zealand and the European Union – to try to help us, to assist us move forward with the development of a viable and efficient energy sector among the islands in the Pacific region. We've looked at ten areas, one of which is regional energy sector coordination, which I will submit to you later. The second aspect is policy and planning – the ultimate consolidative and cross-sector and policy development, similar to the process that you're doing now, but for us it's more a case of approaching the donors, approaching the communities – “Will you be able to live by the policies that will drive the energy sector forward?”

In power we're looking at reliable, safe and affordable access. Transportation – we're looking at environmentally clean energy; efficient, cost-effective transportation; renewable energy and to increase our renewable energy in the region. Petroleum – unfortunately, we don't have any other option right now – it is petroleum, petroleum, petroleum. We are also targeting rural and remote islands; trying to connect them. With respect to environment – we are looking at environmentally sustainable development energy sources and the use of energy within the region. Efficiency, conservation, human and institutional capacities – the challenge for us it to move towards renewable energy – but how are we going to do that? It's all contained in the plan I have mentioned. Madam Chair, I can submit to you our decisions, but it will bore you. I have got to stop.

**The CHAIR** — Is there a focus on waste disposal at all?

**Mr YAUVOLI** — Yes, waste is also a component of SPREP – not only SPREP but also other regional organisations in the Pacific. I don't know how many of you are familiar with the set-up in the region. The Pacific Islands Forum, of which Australia and New Zealand are members – we have a number of regional organisations within the Pacific region. If you look at the region, in terms of the UN classification it is not a region, but we have a number of legitimate relations, including the SPREP. We have the SOPAC, the South Pacific (verify) Applied Science; we have the Foreign Secretary, which is sort of like a regional relationship; we have the foreign fisheries; we have the US (verify) of the South Pacific – so many. Through these regional organisations we have worked towards formulating policies that will benefit the Pacific region.

Going back to waste – a program on the ground funded the GEF – I don't know – the Global Environment Facility that looks at trying to encourage waste management among the islands in the Pacific. Even for us, waste is quite a difficult issue to tackle because it comes in various categories and various international obligations. If we look at solid waste specifically, this is the challenge we are facing. I just came back from an island north of Fiji, an atoll. As you drive across the island, you can see this side and you can see this side, and right across the island you can see waste. People just dump waste all over the place. This is part of the challenge that the regional institution is trying to help them develop – formulate policies that can encourage them to manage waste properly. A program within the South Pacific Regional Environment Program is called International Waters Program. We are going at community level, trying to educate them and encourage them – you know, empower them to say that this is the way forward. An understanding of the way our community process works in the Pacific is that you have to go and sit down with them – you know, go down to their level and tell them what you're doing wrong. Because some of them they don't understand why they cut trees for firewood. They didn't realise that cutting trees has an impact on their water management. You know, pour it into the

rivers – or even tying their animals alongside the rivers; they did not realise the impact of that on polluting the rivers. So these are the sorts of challenges we face. You know, we go down to the communities and try to educate them this is the way to move forward. It's a gradual process, and we hope someday that we will get there.

**Mr HILTON** — Do you think the education should be supported by regulation, or do you feel it should just be through education and people's behaviours will change?

**Mr YAUVOLI** — That's a good question. In some cases, because of the status of living, in some of these communities it might be a combination of the three – fiscal incentives, financial incentives, regulations and education – because, as I said earlier, somebody has just walked into the forest and started chopping down trees. He didn't realise the implication of doing that to the environment and to the inhabitants and the people in the locality. So it can be regulations to enforce it and also incentives to allow them to understand and maybe to address the sorts of challenges they face every day, like poverty. And education is really important, yes, I entirely agree.

**The CHAIR** — Are some jurisdictions more progressive than others when it comes to sustainability? Are some countries or some islands leaders or –

**Mr YAUVOLI** — What we are doing now – we are doing it through pilot projects. So the successes we have seen in the past two years have been very encouraging. Some islands in the Pacific are really quite progressive. I wouldn't say advanced – progressive in the way they manage to adapt policies towards sustainable risk management. But the difficulty for them is the sustainability. I mean, more than one year – because experience has shown everything to be sustained; it has to be supported more than at least done once, continuously. Then it would sort of empower them to know, "Oh, we are facing a real challenge here". Some countries in the Pacific like Samoa – Samoa has been good in terms of waste management, with the assistance of the Japanese government. They have been able to build a new dumping site, which has made a dramatic change in the way we dump waste now. In Palau, the Northern Pacific – and where else? Fiji, yes. Through the European Union they're building a new, big deep-dumping site. Yes, maybe those countries I know, they really do well, yes.

**Mr DRUM** — So the energy source in most of the Pacific Islands at the moment, is petroleum?

**Mr YAUVOLI** — Yes.

**Mr DRUM** — Anything else? Is there any coal power energy?

**Mr YAUVOLI** — No, it's mostly dominated by petroleum. There have been some trials on renewables, on wind. But, as I said, it's the cost of infrastructure; of establishing a windmill is quite expensive, quite exorbitant. And we are exploring that. The Pacific Islands Regional Energy Program will continue its first phase in October. That first phase is to assess for viability of renewable energy, and after that it would come up for the recommendations, and of course we will present it to our donors and see what is the best way forward.

**Mr DRUM** — Do you think that in relation to waste management – is the best action based around reducing waste, or learning how to recycle the waste, or both?

**Mr YAUVOLI** — I think what has been developed now – the first phase has tried to encourage waste management, and the second phase is trying to use recycled waste into energy sources or other products. It's a big challenge in the Pacific.

**Mr SEITZ** — I just noticed that neither of you has mentioned solar power, and I understand you may have more limited sun than –

**Mr BERGQUIST** — Yes, that's right.

**Mr SEITZ** — Are they solar powering in the Pacific?

**Mr YAUVOLI** — Yes, we have a lot of solar powers, but it's an affordability issue. You know, you can't ask somebody in the village, in the local community, "Can you put solar in your roof?"

**Mr BERGQUIST** — Yes, we give subsidies to suit ourselves, but of course it's very limited share.

**The CHAIR** — And have you looked at wind energy?

**Mr YAUVOLI** — Yes, I mentioned that. One of our original organisations, South Pacific Applied Sciences, with the assistance of the European Union, is developing that, yes. They also had demonstrations two weeks ago. It was a big windmill. Everybody they congregated and watched this big animal.

**Ms DUNCAN** — Are there a lot of concerns in the South Pacific with climate change?

**Mr YAUVOLI** — Yes, climate change is one of the major issues, major challenges, that we're facing right now, because of its link to energy, its link to the future survival of some of the islands. It is a big issue now in the Pacific, and we are trying to encourage people to look at first adaptations, how they can better adapt themselves in the circumstances of sea level rise, for example. At the same time, mitigation – and mitigation is where energy comes in – trying to encourage them to look at alternative energy sources. But, you know, it's all in there; it's all in the pipeline, and we are moving towards that.

**Mr HILTON** — Have the Pacific Islands signed the Kyoto Protocol?

**Mr YAUVOLI** — All of them, yes.

**Mr HILTON** — Okay, so there are targets then that you have to achieve?

**Mr YAUVOLI** — Yes, yes.

**The CHAIR** — In the global sense, in the global numbers, the Pacific region– the islands in particular – wouldn't add a lot to greenhouse, would they?

**Mr YAUVOLI** — No.

**Ms DUNCAN** — And does the South Pacific see itself that way, as not being a huge contributor of climate change, but being –

**Mr YAUVOLI** — We are victims of climate change, yes.

**Ms LOVELL** — One thing that has affected us most in Australian as far as climate change is less water. I realise the Pacific Islands are in the tropical belt, but has there been an effect on your rain and water?

**Mr YAUVOLI** — Yes, that's another challenge that we're facing. I just came back from Tuvalu, as I said. Tuvalu, if you look at all the households, they have big tanks. They don't have water tanks – I mean water sheds – because they have coral atolls, coral islands. They depend on rain all the time; and when the rain doesn't come in, they bathe in the sea. But luckily when I was there, for the last seven days it was raining almost every day. So they depend purely on rainwater, and the storage and the catchments is something that they're trying to build, but you know, they –

**Ms LOVELL** — And are you noticing less rain or –

**Mr YAUVOLI** — Yes. It fluctuates, you know. For instance, cyclones and other effects are not a common occurrence in the Pacific. Usually we say it's a trend, it happens once, twice a year, but it happens in some of the months that you never predict it will happen. So those are some of the issues that we face. There are some big, big challenges in the Pacific.

**Ms LOVELL** — Are you looking at any programs for saving water?

**Mr YAUVOLI** — Yes, water is also under one of our programs. Let me put it this way: we launched 14 project initiatives in Johannesburg – some of you are familiar with – the World Summit of Sustainable Development that was held in Johannesburg three years ago; the Pacific Island countries launched 14 projects, one of which is water, energy – you know, to try to assist the countries. The purpose of that is to call in – invite outsiders to assist us to manage all these projects to address the various challenges the Pacific Islands are facing.

**Mr HILTON** — I am interested, Jan, that you said the majority of your renewable energy was coming from forests, and I'm wondering how that is compatible with the carbon taxes that you are introducing. Because I always thought the forests were carbon-producing fuel and I'm just interested in how you really rationalise that.

**Ms BERGQUIST** — We rationalise it by a sort of – I think it's a general discussion, also discussed at the Johannesburg meeting of carbon safe incentives, and the net effect then is that if you were careful to reproduce the forests – we don't cut it, we replace it. But when I said 29 per cent renewable energy, it's also

hydropower and some other renewable sources, so it's not altogether the forest, but that's a big part of it.

**Mr SEITZ** — Now that you've got the European Union and most countries involved – where the rivers and the watershed off-runs from your snowy mountains in the summer time and spring, how are you actually handling the water rights? Who has access to rights? The water coming down from your snowy mountains and the river, do you store it, or are you committed to let it go down the river for the next country to use it, with the quality of that water that goes to the next country and the river? How do you handle that between the different states? You know, we're sort of one country here and we have different states with different decision-making processes. We are slowly getting to the stage of deciding the water flow of rivers, and so forth, but in Europe, how do you handle that? What sort of infrastructural political process is there?

**Mr BERGQUIST** — As with Sweden, the problem is the Baltic Sea. The Baltic Sea has an effect on all the countries around it; and there we have had eutrophication and other problems, which are difficult. But in the middle of Europe, of course, they have the difficult problem of interrelating with these problems – and I can't give you the details. I don't know exactly how they have handled it from a historical point of view, but this is one of the best things with the European Union, that you have a mechanism with the European Union to deal with it. Now those countries in Eastern Europe that have caused several problems in that respect are also becoming members. So there is a program and a mechanism in the European Union to handle this, but unfortunately I don't know enough about it to tell you details.

**Mr SEITZ** — Because we made a decision last year, or the year before, where even a farmer on his own land cannot just create a dam and stop the water running to the next farm.

**Mr BERGQUIST** — Yes, I see.

**Mr SEITZ** — He has to be given permission by the government, and then also make a decision on how much water has to go into a river where a government agency can't block it off and store it for all the environments. Just simply for the river to run, for the environment, for the fish and the grasslands and everything else and the microorganisms that live in that river. Because in the past we have made mistakes where scientists have told us we have insufficient water running down the river to sustain life in it, we're endangering it.

**Mr BERGQUIST** — Yes, I see. We have special courts in order to decide these delicate issues. When there are conflicts, in the end it is up to the courts, the special water courts, to decide on these things, yes.

**Ms DUNCAN** — You have water courts, or environmental courts?

**Mr BERGQUIST** — Yes. Our tradition is special courts that regulate water.

**Ms DUNCAN** — This government has just released a *White Paper* on water, where we're going to introduce legislation that will actually give the rivers a legislative right to water, because currently you can absolutely – and we have many rivers in Australia that are over-allocated. There are more people with licences to take water. If they all took their maximum licence, our rivers would be dry; they're nearly dry now. I thought that was relatively progressive, but we don't have water courts.

**Mr BERGQUIST** — On the other hand, our problems are not that big. Our water resources are generally good. The controversies are rather few, but traditionally we have this judicial system to deal with the conflicts and to take them to court.

**Ms DUNCAN** — Judicial?

**Mr BERGQUIST** — Judicial.

**Ms DUNCAN** — Can I just ask –

**Mr SEITZ** — We will have to start water courts now.

**Ms DUNCAN** — Yes, I know. I thought that VCAT would be our water court, would it? Can I ask Alisdair Morrison from Scotland – and I know we've been talking a bit about wind energy, which is a bit not in my backyard. Everyone thinks it's a great idea, but they don't want it anywhere near them – I don't know that that's the experience is necessarily the same in Scotland; is that the case?

**Mr MORRISON** — Well, it is the experience. Two years ago we set a target whereby 40 per cent of the energy

needs, by 2020, would be from renewable sources. Obviously to date the tried and tested one is wind energy. The problem we have in Scotland – most of you are familiar with geography – I know Geoff is – we have the wind energy resources on the west coast of the country and the infrastructure on the east coast, and the case of having to marry the two jobs involved building wind farms and pylons and having sub-sea cables. The planning issues have been again empowering, and taking powers (indistinct) that the government will determine if we wind farm. Generally it is more than 50 megawatts will be determined by ministers as opposed to the local authority. And again, given that we've set the targets, we then have to ensure the planning machine is aligned and refined so that it allows us to reach that target of 40 per cent of energy from renewable sources by 2020.

**Ms DUNCAN** — Is that seen mostly to be achieved through wind energy? I suppose solar power is not huge in Scotland, is it?

**Mr MORRISON** — It is actually. Obviously –

**Mr HILTON** — It doesn't rain all the time.

**Mr MORRISON** — The great myth is that you actually need sunshine to generate. You don't need sunshine. You just need lots of – I'm not a scientist – but again, we have a huge potential in terms of wave energy on the west coast of Scotland with the Atlantic moving in there, and the rivers. We also inherited after World War II a big highland hydro scheme-type construction – again, which has transformed literally the landscape. It also gives energy to parts of the highlands and to parts of Scotland that would never have energy within the time scale within which we secure that energy.

**Mr HILTON** — The issue we've had in this country is that the unit cost of these new energy sources is so high that as people start to prepare to make the investments when there is cheaper per unit energy source available, like brown coal and oil, to some extent, how as a government will you try to encourage people to invest in renewable energy projects?

**Mr MORRISON** — Basically, by giving them more money for the units they produce. The responsibility is split between Westminster and power (indistinct). Westminster government has given – I can't remember the exact breakdown – but basically companies are now coming in, developers are coming in and energy companies are coming in. For example, my own constituency is planning a location for what will be the world's largest wind farm – it is about to be tabled. It will be tabled next month, and that company will generate millions per annum because that's a favourable regime. But the challenge for us as well, as a government, is to choose. Up in the north west of the UK we have vast wind resources; the market is in the southeast, so it is transmission costs. At Westminster they're currently passing an energy bill – the third readings are tomorrow – to spread the cost of transmission right across the UK so that every person using electricity will pay for the transmission. If we don't secure that, it means that we'll never be in a position to have the wind turbines, the wave turbines, up in the north-west, and it just doesn't stack up.

**Mr HILTON** — So the subsidies the government is giving in the UK, somebody's got to pay for that. Does it come out of central revenue, or is it hypothecated in some way to the individual's electricity bill?

**Mr MORRISON** — Well, that's what we want to do. We want to ensure that every consumer pays – and it will be just a fraction when you spread it out – over 60 million households, where there are 60 million people. That way you make it viable, and at the same time ensure that the companies get to give a reward. Also on energy issues – just reflecting on some of the other issues you were taking about – there is great emphasis on making houses energy-efficient, and in Scotland over the next couple of years we are spending £350 million on giving free central heating to all pensioners, and free insulation as well. And I'm sure there's a hierarchy that those who are without energy sources are also at the top of the list – but every winter at Christmas the UK government gives £200 to all pensioners over the age of 80. There's lots of advice now where if you have a business or a household you can pick up the phone and get someone to come around, advise you as to how to make your business more energy-efficient; and also, if you'd like a turbine or to put solar panels in, you get government assistance.

**Mr HILTON** — And is that energy and that advice free?

**Mr MORRISON** — That advice is free, yes.

**The CHAIR** — Can I just ask a question, because I've not seen a wave turbine? What sort of infrastructure is needed to convert the waves to the energy? Is the infrastructure as impacting as the wind turbines?

**Mr MORRISON** — It's about the size of this room, but there's one that works on an island off the west coast of

(indistinct); it is one of the few working in the world that is actually inputting into the national grid, and it will be billions o – basically the wave comes in – I have no idea – I’m not going to explain the physics of it, but it doesn’t impact.

**Ms DUNCAN** — It’s not a visual impact?

**Mr MORRISON** — It’s a negligible visual impact. You’d have to be down by the coast as opposed to having turbines that we are going to have close to 234 turbines at 140m high and they would generate; that farm alone would generate 1 per cent of the UK’s energy needs, which contexts the scale of it. As far as the project is concerned – I’m unashamedly partisan – but it would come into a cost, what we call in Britain, for the chattering classes. We’re in favour of wind energy, but –

**Mr HILTON** — Yes, that’s right.

**Mr MORRISON** — It’s getting past the ‘but’ –

**The CHAIR** — So where’s that proposal for? Where are the proposed wind turbines going to be located?

**Mr MORRISON** — In my constituency. If you think of the UK, there are islands off the west coast, and the construction of an under sub-sea cable to the mainland would cost £1 million a mile – the rough cost. And then you need the pylons to go from the west coast of Scotland over to the east coast. The sub-sea cables are not a problem, apart from obviously cost. The other problem is going to be with pylons in terms of energy.

**The CHAIR** — Yes, we’ve had that problem.

**Mr MORRISON** — We have to get them to the east of England.

**The CHAIR** — And so as you drive down the west coast of Scotland, will you be able to look out across the islands and see the wind turbines?

**Mr MORRISON** — Those on the mainland of the west coast, but when you come over to what’s always the best constituency, you won’t be able to see it. Again, I think they’re quite delighted.

**Ms DUNCAN** — Do the people of the western isles agree with you?

**Mr MORRISON** — 95 per cent of those that matter do.

**Ms DUNCAN** — That’s those with the vote?

**Mr MORRISON** — Yes.

**Mr DRUM** — In relation to capacity, how does one wave-powered power station compare to, say, 100 wind turbines? Have you worked out the capacity or the capability of a wave-generated power source?

**Mr MORRISON** — I’m sure the power economists have done this ad nauseum, but I don’t have the details. I know that the wind turbines are becoming more efficient to us as the technology improves. Just like cars and everything else we use becomes more efficient. The only wave turbine machine that is making a meaningful contribution is the one I mentioned earlier on the island. And again, it is working and there are plans to build more – because you want a mix of renewable sources, you just don’t want to focus on the one sort.

You were talking earlier in relation to your waste strategy. Something that we have a big problem with is landfill. All of our waste went into landfills, so we tried to swing away. Again, we are taxing individuals and businesses heavily to landfill tax, just basically to discourage people from using landfill.

**Mr SEITZ** — Same here. We have landfill tax.

**Mr MORRISON** — I’m finding that is being used to target a community level, so if we do change attitudes – because it’s all about putting it in people’s minds – again, a vast resource is being spent at a community level on curbside recycling, community composting, and all those issues which are just miles away from home. The challenges you face and the issues you’re discussing are identical.

**Mr HILTON** — The question I raised before then – in your experience in Scotland, do you feel there has to be some

sort of penalty or regulatory framework to change people's opinion or can we change people's opinion purely through education?

**Mr MORRISON** — I think people already know what we're doing is lousy. The problem, though, is it is not the fact that we don't know what we're doing but that our practices are shoddy; they fall short of the mark. If you want to throw your lemonade bottles or your beer bottles into a recycle container, it has to be there, it has to be accessible. It doesn't mean you have to drive 10 miles – you're polluting, driving to go and make what you think is a reasonable contribution. For us it's about infrastructure. Education yes, there is a minimum to that, but I think there are a lot of problem in Scotland. People basically know we're not up to the gate of challenges as a government to choose between giving the facilities.

**Mr HILTON** — Plastic bags is an issue, I suppose, worldwide. I know the Republic of Ireland has introduced a levy on plastic bags, and the problem has reduced en masse by 90 per cent, I think it was. We're still debating the best way of reducing plastic bag usage in Australia. Have you got any comments, from your experience?

**Mr MORRISON** — We debated this about six months ago. We decided there wasn't (indistinct) from one of the opposition parties to do what the Irish had done. We veered away from it, simply because it was going to be a tax on those that have little enough money to go around. And it was that question of engaging the supermarkets, for them to take the responsibility. They now produce bags that will last for six months. So when you go to do your shopping, you use the same bag, and you obviously use recycled paper bags as well, which again they're not practical. They're great for the middle classes with the big fancy cars where you go and dump your groceries in the back, but if you walk into a supermarket, you're not going to go home with a paper bag. So we've again put the onus on the supermarkets.

**Mr HILTON** — But I'm interested that the Irish initiative is so successful, and I assumed that they must have looked at the same issue that you did, from the social adequacy point of view, and you came to a different decision.

**Mr MORRISON** — Yes, we just came to a different decision. It's always getting the supermarkets – and again, some of them are very, very responsible in the sense that when they drove off goods out of the shop, they don't go back empty, they take all the waste from those shops back with them to recycle, so they take on part of the responsibility.

**The CHAIR** — If I can follow up Geoff's comment. I would have thought Ireland would be probably doing a bit better economically at a community level than Scotland. Scotland is still a bit – it's a long time since I've been to either country, but I –

**Mr MORRISON** — Ireland's greatly benefited from the EU because they're obviously at a different baseline, different starting point, and they've been in receipt of billions of EU subsidies, which is obviously going to stop in the next while. But the economy is growing again at a sustainable rate – not as fast as some parts of the UK, but I'm sure the same is true of Australia, that parts of Australia perform better. But as far as the economic picture in Scotland is concerned, it has the lowest employment rates for 40 years, lowest interest rates for 40 years, lowest mortgage rates for 40 years.

**The CHAIR** — Lowest unemployment rate?

**Mr MORRISON** — Yes.

**The CHAIR** — Okay, good.

**Mr MORRISON** — I think it was Caroline who asked about the European water directive. Again, as far as the Swedish experience, being responsible Europeans, 80 per cent of the laws that are transposed onto the static group in Scotland emanate from Brussels and on all aspects of the environment, directives and whatever. Some 80 per cent of environment law is made in the EU, and the water directive again in Scotland is about raising standards and reducing the emission of a discharge of raw sewerage into the seas; and for that, again, we've committed to spending £1.8 billion on water services and infrastructure, because we've inherited and have been living with an unsatisfactory water system. But Victorians are still in many cases – it's a challenge for us.

**The CHAIR** — So I suppose the same question is probably to Jan and yourself: recycled water, is there such a thing in Scotland or Sweden? Do you look at recycling and reusing and greywater and harvesting stormwater, all those sorts of things?

**Mr MORRISON** — There's no lack of water, if you recall, at all in Scotland.

**The CHAIR** — Excuse me, I worked in Scotland – worked damn hard, too!

**Ms OIKARI** — No, I don't think we have recycling water –

**Mr BERGQUIST** — We don't do this.

**Ms OIKARI** — We let it go out.

**Mr MORRISON** — In London, if you have a cup of tea, at least another four people have landed before you finish it!

**Ms DUNCAN** — Can I just ask Jan, though – I don't know if I missed it – but did you say that initially in Europe, in all of Europe – I'm not sure, was it 35 000 deaths, did you say

**Mr BERGQUIST** — Yes, and that's in terms –

**Ms DUNCAN** — Per year?

**Mr BERGQUIST** — That's last year. It was a particularly hot summer last year, and especially in southern Europe.

**Ms DUNCAN** — Bloody hot!

**Mr BERGQUIST** — And this figure is from the European Commission. It has possibly claimed 35 000 lives. I haven't controlled it, but since it has come from the European Commission I think it is a fairly good figure; but that, of course, is extraordinary. It's also a warning signal. Of course, we are not used to these enormous hot waves of the sun, and especially older people and people with heart problems will get problems.

**Ms DUNCAN** — How hot was it?

**Mr BERGQUIST** — It was more than 40 degrees Centigrade; it was sort of a southern warm, and many were astonished, they're not –

**Ms OIKARI** — During three or four weeks.

**Mr BERGQUIST** — They were not prepared for that; but that was extraordinary. The cost I mentioned – about A\$2 billion for storms, droughts and floods – this is an average per year, so that's not extraordinary.

**The CHAIR** — Do we want to get a new cup of coffee, a cup of tea, and think? I think yes.

**Witnesses withdrew  
Committee adjourned**