

CORRECTED VERSION

ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Inquiry into Sustainable Communities

Melbourne – 17 May 2004

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The CHAIR — All evidence taken by the committee is taken under the provisions of the Parliamentary Committees Act and is protected from judicial review. However, any comments made outside the precincts of this hearing are not protected by parliamentary privilege. All evidence today is being recorded and witnesses will be provided with proof versions of the transcript. If you would like to make your presentation we will then take questions.

Overheads shown

Mr COLLINS — Thank you, Madam Chair. We have attempted, in the material that we've put together in this presentation, to address the key points that were spelt out in the committee's letter to the Minister for Environment. We think we have answered the majority of the points the committee flagged. In some instances, we are still assembling further supporting information, and will provide that to the committee as soon as we can complete the material. In responding to the points the committee flagged, we have done so by organising the presentation around three main issue areas: greenhouse and energy use; waste management and waste reduction; and water use, as we see those as being three areas where there is substantial potential for changed and improved outcomes to be achieved as a result of things that can be done at a community and household level.

Having talked a bit about each of those issues in turn, we will then talk more generally about the importance of behavioural change and some of the issues involved in achieving that. If time permits, we have some examples of good practice in terms of some of the behavioral change programs that we can talk to.

Starting with greenhouse emissions. As this slide makes clear, about 90 per cent of the total greenhouse gas emissions in Victoria are attributable to energy use, and of that energy use there are two very large components. The biggest by far is stationary energy, which is basically the generation of all the electricity that is used in a variety of ways. The other major component is transport energy use. In terms of overall energy use, consumption has been growing at a pretty steady rate – about 2.5 per cent per year. And we are projecting that there will continue to be significant growth in terms of greenhouse emissions from electricity production. That growth is partly as a result of increased energy demand in Victoria, and is also partly a result of the fact that Victoria exports significant amounts of energy to other states. There is a particular issue in terms of energy use in Victoria, in that the brown coal resource on which Victoria's electricity production is strongly based has relatively high greenhouse emission intensity.

Looking at what the contribution of households is to that energy consumption – household consumption accounts for a bit over a quarter of the stationary energy use, or about 16 per cent of total Victoria greenhouse gas emissions; and each household's energy use is the equivalent of about 8 tonnes of carbon dioxide each year. Clearly there is substantial scope for reductions in those emissions as a result of both more efficient use of energy, and in some cases by switching the source of energy – so thinking about things like solar hot-water heaters, and so on. There is a very substantial energy bill for Victorian households – about \$1300 a year on average – and that suggests to us that there are not only environment benefits out of energy conservation, but also potentially significant financial benefits to households.

If you think about the variety of ways in which you could seek to influence the use of energy at a household level, they range in scale from thinking about the design of neighbourhoods – things like making sure that when we're designing new suburbs we make it possible for all houses to be orientated to make maximum use of solar energy. There are clearly things that can be done and are being done at the level of designing individual houses and apartments, and the five-star energy efficiency standard for new housing is the critical thing that's occurring there. When you get then down to other things that might be done, you start to look at what could be achievable above the five-star energy rating – if we both increase consumer awareness that we need to save energy, and also increase the awareness of design professionals, builders and others, of ways in which additional energy might be saved. There are things like the use of landscaping to compliment the design of the housing, and there are a variety of things that can be done in terms of both choice of appliances to reduce their energy use – make them more energy efficient – but also ultimately by changing consumer behaviour to try to ensure that we collectively all do the simple little things like turning off the lights to reduce energy demand.

There are a variety of ways in which, at a household level, households can approach energy savings. I won't read through this list, but clearly there are a number of opportunities there, and in a number of cases they are things that government is already supporting by either providing financial incentives or information to households. But ultimately it is dependant upon persuading people that it is both important and possible to make a difference through personal behaviour. It is important to recognise that there are linkages between what can be done in terms of achieving sustainability on different fronts, so if we are able to encourage families to reduce the amount of waste that is produced, to do more in terms of recycling and reuse, you get a greenhouse benefit as well as a waste-reduction benefit, because you reduce greenhouse gas emissions from landfills.

The other major component in terms of energy use at a household level is the transport component. Over 65 per cent of road transport emissions in Victoria come from the household sector. There are a variety of things that influence those emission levels – not only the amount of travel, but also the type of vehicles that people use and the

way the vehicles are driven. We have put data up there from the Victorian Activity and Travel Survey that show the contributions that private vehicle use makes – private car use makes – in terms of numbers of trips and total distance travelled in Melbourne, by way of illustration.

In terms of the actions that can potentially be taken at an individual and household level in terms of trying to reduce energy use and therefore greenhouse emissions at a household level, there are a variety of ways in which we can make a contribution. There are options to the car; we can walk or cycle for shorter trips. We can use public transport more. We can think about ways in which we can reduce the number of trips by combining several destinations into the one trip, or several activities into the one trip, and we can think about the vehicle choices that we make, so that to the degree we do use the car, we reduce the energy use and greenhouse implications.

One of the things that the committee particularly asked us to comment on was the responsibility of commonwealth and state agencies around the issues that you're looking at. In the case of greenhouse, the lead commonwealth agency is the Australian Greenhouse Office. They produce a variety of policy advice and information for use by the commonwealth government aimed more widely at influencing public understanding of the issues. At a state level the Victorian government's approach to trying to reduce greenhouse emissions and promote efficient energy use is the Victorian Greenhouse Strategy, and there are a variety of state agencies that are involved in addressing these issues – the department, in terms of driving the further development of the Greenhouse Strategy, and the implementation of a variety of programs designed to achieve that. The Sustainable Energy Authority promotes more efficient energy use and renewable energy development and works both with the business sector and with households. The EPA works to regulate emissions, and importantly also, the Department of Infrastructure is involved in an energy policy sense as well as trying to influence energy use and greenhouse outcomes in terms of personal travel through programs such as TravelSmart. Clearly, there's a substantial role for local government as well, exemplified by the involvement of many municipalities in the Cities for Climate Protection Program.

In terms of waste as the second of the three topic areas that we addressed Australia still has a substantial way to go. We don't rank very well in terms of the OECD listings of municipal waste producers. We generate almost 950 kilos of waste per household each year, and even within Australia we're in the middle ranks in terms of the total volume of waste generated; although we come out a little better if you look at it in terms of the amount of waste that goes to landfill rather than being recovered.

In terms of waste recovery, we've made some gains over the last decade. The amount of recycling that has been occurring has increased substantially, but what's tended to happen is that increase in total waste generation has tended to offset that increase in recycling – so the amount of waste going to landfill overall has been fairly steady. There are further things that can and must be done in terms of trying to further reduce the amount of waste going to landfill. Those things have to do with household behaviour, materials reused, and the use of technology in terms of enabling a fuller recovery of materials from the waste stream.

Current performance in terms of waste recovery: Our overall rate was 28 per cent in terms of municipal waste, which is one of the highest rates in Australia, and in some metropolitan LGOs it gets up to more than 50 per cent. We have a very high availability of curbside recycling of some type, and quite a lot of Victorian councils provide not only the basic curbside recycling options but also things like green organics collection.

In terms of some of the things that could be done to further improve our performance in recycling: Obviously it becomes important to focus on some of the larger items in the current residual waste stream – which tends to be organic materials and potentially recyclable paper. The general reaction from what we understand, of community attitudes and council attitudes, is that they are willing to do more in these sorts of areas. But what we need is effective and cost-efficient ways of actually enabling us to do that by better collection and sorting services. It also becomes very important that we not only look at increasing recycling, but also that we look at what can be done in terms of encouraging households to focus on waste avoidance, so that we deal with the problem as much as possible at the source. On this slide we've identified some of the ways in which that might be approached – both by working with industry in terms of product stewardship-type approaches, where industries commit to programs that are designed to reduce the amount of waste produced and also recover and reuse more of the potential waste, by working with programs that are designed to raise consumer awareness, and also to promote active consumer behavioural change, including increased demand for recycled materials. We have included in the box at the bottom some examples in the EPA's web site of things that can be done at a household level.

Responsibilities for waste management - at the commonwealth level - the key agency is the Department of Environment and Heritage. At a Victorian level DSE has a broad policy coordination role, which we are still in the process of establishing. The EPA has the overarching planning role, and sets the statutory framework within which councils and industry and waste operators work. EcoRecycle has the job of working both with municipalities and industrial waste generators and recyclers to promote waste reduction and reuse, and they have a variety of programs that are designed to achieve that outcome.

There are 16 regional waste management groups across Victoria, including, I think, four in the metropolitan area that have a key role in coordinating action at a regional level. And this is clearly an area where local governments across Victoria have a critical role.

The third of the main topic areas that we will provide you with information on is water use. As you can see from this slide, about 8 per cent of Victoria's total water use relates to urban uses, including industrial uses in the Melbourne region and about 9 per cent relates to urban and industrial uses outside the metropolitan area. That 9 per cent figure is a little overstated because it includes some irrigation uses that are supplied from urban water authorities, and what-have-you, but we haven't been able to disaggregate that, so we just need to treat that figure with a little bit of caution.

The important thing is that metropolitan water use at 480 gegalitres a year is already getting up towards the capacity of the existing water supply system for the metropolitan area, and by 2030, unless we change the per capita usage rates for water, we will have well and truly exceeded the capacity of Melbourne's existing water supply system. There are a number of things that potentially could increase the pressure on our existing water supplies. The most fundamental is climate change, and Melbourne Water is already doing some work with CSIRO to try to get a better handle on what the likely impact of climate change on the yield of Melbourne's water supply system would be. Overall it would tend to result in our reservoirs capturing less water; an increased demand because of higher average temperatures and greater peaking in demand.

Similar sorts of issues arise when you look outside the metropolitan area. All of our urban water supply authorities have the same sort of issue of trying to encourage water conservation so as to make the most of their existing storage capacity and reduce the amount of unnecessary investment in new water supply infrastructure.

In terms of the pattern of Melbourne's water use: As you can see, household water use makes up 60 per cent of Melbourne's total water use, and that comes from a variety of sources, with garden use accounting for about a third and the rest being split between bathroom, toilet and laundry uses. So if you want to make savings, you need to target behaviour that impacts on a number of those areas. I think increasingly into the future part of the answer is going to have to be not just about reducing water use in total, but also trying to make sure we do a better job of matching the type of water that is used to the potential sources and what's fit for what use. At the moment we rely to a very high extent on the dam system and piped water supply. There is potential to make greater use of rainfall and recycled water, and it's a question of identifying what uses that water is potentially suitable for and how it can most effectively and cost-efficiently be used.

We've identified a number of ways in which water use can be reduced at a household level, and again it flows all the way from the level of subdivision design, where there are already some good examples of things being done that could be described as water-sensitive urban design. It ranges up from ways in which you design subdivisions without getting into things like third-pipe systems, into planning new subdivisions to use recycled water via third-pipe systems, and in some cases – like the Vic Urban development at Aurora – a package treatment plant onsite is proposed.

There are also things that can be done around individual building design to encourage the reuse of grey water at a household level, and there are obviously a variety of things that can be done at the level of individual appliances, and so on, to reduce water use. Within existing dwellings what becomes particularly important is behavioural change, because the first thing you have to do is motivate people to think it's important and then to take action, which can be supported by provision of information or incentives.

Overall, in terms of achieving greater efficiency in water use, we believe that behavioural change programs are critically important. We tend to try to bring those behavioural changes about, traditionally by the use of water restrictions at times of greatest need, and also by general awareness raising campaigns. There are some examples starting to become available of ways in which you can more proactively and in a more targeted way try to achieve behavioural change. The example we quote here is the WaterSmart program, which has been tested in Perth. It's based upon the TravelSmart programs, which have been run in Perth and are now being run in Melbourne, and they're designed to produce very targeted information to influence behaviour at a household level.

In terms of the challenges that are ahead of us in encouraging more efficient water use, we still have a lot to do as far as awareness raising, including providing information that people can draw upon once they are aware of the issues. There is obviously more that can and needs to be done to encourage changes in appliance design and choice of appliances, garden designs – all of those sorts of things that are designed to bring about long-term savings in water usage – but ultimately again it comes back to behavioural change.

Responsibilities in this area: Urban water use is predominantly a state responsibility. The commonwealth has very considerable issues at the moment in terms of water use, but they tend to focus more on the rural water use and major river systems. The urban water issues are more for the states. Within Victoria again DSE has a role to

provide policy advice for planning – allocating the water resource and providing advice to the government on the performance and future activities of the various water authorities. There are a range of water authorities in Melbourne and across regional Victoria that have a critical role to play, and we anticipate in the future three types of regulatory agencies will be involved – the Essential Services Commission in pricing and service quality; the EPA in environmental performance of water authorities, and the proposed drinking water regulator for drinking water quality.

Just talking briefly about the overall approach to achieving more sustainable resource use at a household level: We need to think of ways that encompass all the issues we've talked about and other things that can be done at a household level. We need to approach that by looking at behavioural change, at the ways in which we can mandate, support or encourage through improved technology and/or regulate more efficient resource use. Those components are interrelated as shown in this slide. Basically, once you've increased community awareness of the issues, you have the circumstances in which you can create the demand for new technology; you can also create the acceptance of changed regulatory rules. Between regulation and technology, there is also an interrelationship in that foreshadowing the regulation can create a demand for new technology. But ultimately unless the technology is there and is cost-effective, we don't achieve the outcome of improved resource use.

We believe as a department that a focus on behavioural change is very important. There are a number of reasons for that. For a start, it potentially has the widest penetration in terms of the percentage of the market that you can get to. If you introduce things like five-star energy ratings for new housing, it takes a number of years before you can build up to be influencing a substantial percentage of total households. If you're looking at behavioural change programs, you can potentially get to a wide percentage of households very quickly. Equally well-targeted behavioural change programs can be very cost-efficient, and they can also have substantial flow-on effects. They can create the sort of environment in which suppliers of appliances respond to changing market demand, and they can support other government actions to achieve resource efficiency. But if we are going to achieve successful behavioural change, we need to start by raising awareness of the issues, and then also provide information that tells households how they can make a difference. It's not enough to know that energy and greenhouse is important. People need to understand what contribution they can make, and we need to have programs that can actually encourage and support them in starting to take action to reinforce their changed behaviours.

We've identified on this slide a number of the types of steps which government is taking to support behavioural change. They include the awareness raising campaigns for water conservation and energy efficiency. They include targeted information campaigns that in some cases provide very detailed information about the steps that can be taken at a household level, and they include programs like TravelSmart – and possibly in future a Victorian version of the WaterSmart campaign – that are designed to work with households to encourage them to take action.

There are however a number of barriers to achieving behavioural change. It takes time and effort to do things in new ways, and we have to get organisations and households out of doing things in traditional ways. We have to encourage suppliers – whether they're plumbing suppliers, builders, et cetera – to think about and recommend sustainable options. We need to be able to demonstrate that the things that people could do are practical and will make a difference. So there are a variety of issues that need to be addressed and the committee might need to look at as it's working through the issues.

Overall, if we had to identify one particular point, we would point to the critical importance of providing information that is tailored to the particular needs of households. Getting information in a form that is relevant to the circumstances and needs of the individual household is critically important. That's where programs like TravelSmart and WaterSmart are good examples, and we have flagged in the remainder of this presentation some of the examples of those sorts of programs.

Mr PORTER — I'll be fairly brief here. I guess what we tried to do in the department is give you a snapshot of some of the relevant examples that we've seen of some new best practice programs for trying to achieve the sort of sustainable outcomes that we've talked about in this presentation. There are numerous examples, but we've picked four – two from Victoria, one from Western Australia and one from overseas. We're currently looking into what best practice really means in this area, and we will be happy to provide the committee with more information as we go.

First we're looking at the TravelSmart program. TravelSmart works using an approach called individualised marketing. In essence, households are made aware in an initial sweep, I guess, that there is an issue that needs to be dealt with, and they're contacted individually to determine whether they're actually interested in participating in the program. Then the program provides much more detailed information, often with one-on-one contact from an advisor for the households. So that pretty much sums up how most of these more individualised behavioural change programs work.

The developers of the program are obviously looking at a perception that there was a real gap in people's understanding of an expectation of public transport and other forms of getting around, and were tending to use their cars

as the first and easiest approach. The sort of experience the TravelSmart programs have produced in other countries has suggested that you can reduce by around 10 per cent or more the amount of car usage while increasing environmentally friendly modes of transport by anything up to about 30 per cent.

In terms of the Victorian experience with TravelSmart: The first program was run in Victoria in the Alamein corridor. Some 6000 or so households were approached. It cost about \$100 per household, so it's quite an expensive exercise. The program was jointly funded by the Victorian government, through the Department of Infrastructure, and the Australian Greenhouse Office and the public transport operators. Through the Alamein program we've got some statistics there of packages delivered to homes, community members who actually requested information, and so forth, and I won't go through those in detail.

What is interesting is the preliminary result of the Alamein program – which was a 10 per cent decrease in people driving alone – a 27 per cent increase in public transport use, which is terrific; a 26 per cent increase in walking and a 23 per cent increase in cycling. And that was based on survey data before and after with households. There's another survey data there that I won't go through in detail. We're now looking at expanding that through DOI to the City of Darebin.

Looking at work that's been done in Perth and the WaterSmart program, again I won't go through it in exhaustive detail, as a lot of this information is available on the web. A 30-month awareness campaign was conducted of our need to save water and around the introduction of restrictions. The Western Australian government has been faced with probably an even starker problem than we had. They've got more policy issues to deal with than we've had to date. There was a high willingness of households to participate – about 90 per cent – which is much higher than the TravelSmart people expect. Households were given a dialogue-based scheme with an expected high level of communication between them and the scheme. They did need considerable assistance to try ways of savings water in the home, but one thing I know is that there were home visits by specialised plumbers as part of this program, and so forth. So essentially they did home audits around water use. The sort of savings that households saw was about a 7 per cent reduction over the period of the program and 11 kilolitres per person, so again very effective.

Another Victorian program – or suite of programs – is EcoRecycle Victoria's Waste Wise program, including particularly the Waste Wise education program. This one focused on schools, looking at training teachers around waste reduction. Schools commonly reported waste reduction between 40 per cent and 95 per cent. One of the attractive parts of this program is that it tried to look at schooling as a whole community, rather than just through the curriculum or just as a set of buildings. So they actually linked what was taught through the VCE to what was being promoted to the school community more broadly. I think the figures there stand for themselves.

Just looking at one overseas example – and there's a lot more on the TravelSmart website – the community based social marketing website, which we can give you details of – the global warming campaign was run in Portland, Oregon, originally through a church group – Congregates – who were asked to reduce their household thermostats by 1 degree during the heating season, reduce driving speeds by 2 miles per hour, and so forth. Essentially, the figures that they're looking at were savings of about US\$90 per year in terms of energy costs, 1,300 pounds per year of CO² reduction, and so forth – again similar sorts of programs as the ones that we've looked at in TravelSmart and WaterSmart that kick off mainly into households with public information. Again, very high participation rates, pretty high returns in investment by the government in this case, and very high fulfillment of the pledges made by households.

So, as I say, that's a very quick summary of what we think is best practice work that's gone on overseas.

Mr COLLINS — And there is some additional support material.

The CHAIR — Any questions?

Ms DUNCAN — John, one of the slides referred to gains in recycling, or gains in reduction and consumption being offset by resource intensive lifestyles. Can you give us a bit of a picture about what an intensive resource lifestyle looks like so Jenny can make adjustments there?

Mr COLLINS — It's just the general issue that as our incomes go up, we all tend to consume more, and even though our percentage of recycling goes up – and I thought that at one stage we had a graph in the material that actually showed what's happening in commercial and industrial waste generation and household waste generation and recycling – what that makes clear is that while we are going a lot better than we could've been and have made such a substantial start on recycling, we haven't managed to turn the amount of material going to landfill down yet, so we have significant further efforts to make.

Ms DUNCAN — So is it in things like – I mean, you look at your own household and you think you've still got the same number of rooms, the same number of lights, you kind of still buy and eat the same sorts of foods – but is it things like

growth in air-conditioning, for example? Are people heating all of the rooms in their houses? In the old days, we were heating one.

Mr PORTER — I can give you two examples that I think are interesting. One is in terms of packaging – and I’m sure everyone’s been confronted by the fact that we are now over-packaging what we buy to a huge extent. Some of this happens possibly in response to concerns about security. We often have worries about what we buy in supermarkets, and so on, but there appears to be a response in, as I say, massive amounts of plastic packaging on just about everything we buy. Another good one is the air-conditioning, and another good example is refrigerator use. Very often, even if a household moves from a clunky old refrigerator to a higher-energy efficiency refrigerator, they’ll keep the second one in the shed and keep it running. So there are a whole lot of issues like that, and if you run across all the areas of resource use, you’ll find similar examples.

Ms COOTE — I’ve got a couple of questions, mainly to John. One was about the green power. Your understanding of green power – I mean, it’s been out there for some time, and it’s never really captured anyone’s imagination. I think it is because people don’t trust it; their savings or their money is actually going into green power. Have you got any comments about green power?

Mr PORTER — I don’t have any information in my head. I think that’s been an issue with the green power program. Certainly the government agencies around the country have been involved in operating that voluntary program. There are two issues of perception that need to be dealt with. One is the sort of renewable energy that is being put through the green power program – and there’s been some debate around the use of forestry biomass for that. Another is in terms of whether or not one actually buys green electrons. I think that’s a common question that gets asked. Clearly green power is based on an accounting methodology where a certain amount of green power is purchased or contracted by retailers and then sold on – and governments were accountability to credit that information. In terms of promotions that we’re undertaking to make sure people pick it up, I think the best person to speak to you would be David Young, the CEO of SEAV.

Mr COLLINS — But overall I guess it’s a good example of the way in which you need to move on multiple fronts if you want to affect behaviour, because it is vitally important that you provide people with information in terms of their household electricity use and what drives it, and provide them with information about what the impact of choosing the green power option can have in terms of environmental outcomes. But also you’re able to give them some assurances about if they choose to pay the premium they can ensure that it will flow through and result in the environmental benefit.

Ms COOTE — The 8 per cent leakage that was showed in the Melbourne potable water – and that’s another issue – if we all turn off the taps when we clean our teeth and have a two-minute shower instead of four minutes, and all this sort of stuff. Yet we’re facing an 8 per cent leakage. There’s a sense of lack of confidence. Like that slide – is that being addressed, because 8 per cent seems quite a lot?

Ms DUNCAN — Woomera Malle pipelines –

Ms COOTE — No this is Melbourne.

Mr COLLINS — I’m not an expert in terms of water supply agencies, but going back 20-odd years when I worked for the Board of Works, and trying to recall the detail of these numbers, I don’t think 8 per cent – if my memory serves me correctly – is a particularly abnormally high level of leakage. You clearly need to be addressing issues like leakage, but it’s not the reason for not doing things that address the 92 per cent of use that isn’t lost in terms of leakage. At best you might aim at world’s best practice – and I don’t know what world’s best practice is but I’d been amazed if it was anything like 4 per cent. So even if you got Melbourne to world’s best practice in terms of reducing leakage from the system, you’ll make a hell of a lot less impact than you would out of changing household behaviours.

Ms COOTE — It’s really more a perception thing in looking at our brief and how we’ve grown to educate the people to use it. We’re saving our water, but what’s happening out there? That’s more of an issue that maybe we need to follow through on.

Mr COLLINS — I’m sure Melbourne Water and –

Ms WILLIAMS — There are some dollars invested as well. I can’t remember what program it is, but to fix up their leaks – and South East Water are doing quite a lot of work on it, having made significant investment in leak detection technology.

Ms DUNCAN — I think we are one of the best. I remember from a briefing somewhere else, we compare very well on leakage, and it’s getting better every year as we retro-upgrade infrastructure.

Ms COOTE — Thanks very much, Joanne. Could you just tell me where Aurora is?

Ms COLLINS — Aurora is a Vic Urban estate out in Epping North.

Ms COOTE — Thank you.

Mr SEITZ — The question I want to pose is, why is it that the householder is responsible for recycling and not the manufacturer? To me packaging, over-packaging, and in particular with all the imports – to me there is obviously no limit in the legislation that stops what packaging is allowed to be imported. Because when you look at the coding for recycling and plastic, most of the Australian manufacturing goods have a code – some that can be recycled and some that can't be. My wife and I were also in an argument, because I put all the plastic in the recycling and she kept saying, "No you can't. That can't be recycled; that can't go in". And most of it is imported stuff. So to me, there needs to be a broader look at legislation in saying whatever an importer brings in here, that that material can be recycled. I would like your comments.

Mr COLLINS — I think you need to work at both the supplier and at the household end. At the supplier I think it's a moot point whether or not you would get better result by trying to regulate or by trying to work with industry groups via the sorts of sustainability covenants or approaches like that, that engage industry and try to lead voluntary changes within industry. And the EPA has done a fair amount of work with a variety of industry organisations around that. But even given all of that, you can make choices at a household level. You can choose whether or not you cart things home in plastic bags, you can choose whether or not you buy shirts that are done up in eight layers of packaging, and you've then got to spend 20 minutes unpacking and decide if you throw it out or not. So we need to work at both ends.

Mr SEITZ — If I may just follow up – and of course that was my next question. You just mentioned plastic bags, my favourite thing. It has got a lot of free publicity, and when you go and purchase all the other stuff – they haven't really contributed a great deal. Now plastic bags were sort of a favourite publicity media thing, but everything else like you mentioned, the shirt packaging and all that – there is no clear mark whether I can put it in the plastic bin. I see it as plastic, so I put it in the plastic bin and my wife says, "No that's not recyclable". Therefore I say the manufacturers and the packagers should take responsibility for this and we should be a lot harder on them. In my electorate in the schools the campaigning and the pressure is on the household and the community has no responsibility. I mean, I would like to see every margarine container recycled – and every ice-cream container – yet they are not. They get away with not having it.

The CHAIR — There's only so many vases you can have.

Ms COOTE — The new yoghurt vases in the household!

Ms DUNCAN — Or did you mean to recycle them?

Ms COOTE — You're meant to use them. You're meant to actually use them to put your flowers in

Mr SEITZ — Now why isn't it that they haven't been chained into it – if that's what you're saying – these manufacturers of those goods, because people will buy what's the cheapest? And they go to Bi-Lo, and housewives – and myself and others – they'll just go thrifty buying when things are on specials, but invariably you'll find they're not recyclable containers.

Mr COLLINS — Getting clear labeling of what is and what isn't recyclable is a good idea. It's a question of how best do you get to that end. Again, we've made reasonable progress over time. No doubt there is more we need to do.

Mr SEITZ — It's very slow.

Ms COOTE — Really quickly, about those yoghurt vases: are you honestly telling me that we're supposed to be out there selling to people who use yoghurt vases in their house?

SPEAKER — Did I say that?

Ms COOTE — You said the EPA said that – because if we're going to be talking about that level of publicity, we're going to be in big trouble. Damian, are you going to be out with the Waterford and the Yoplait vase?

SPEAKER — I've got to say it's not one I've got in my house.

Ms COOTE — I'll send mine around to you.

Mr PORTER — This comes from an EPA site for students. The idea is to get them to think laterally. I don't think we are necessarily suggesting that that is an approach that will get rid of every yoghurt container from the system.

Ms COOTE — But it says storage containers, vases and pot plants. You don't use them to grow your little seedlings.

SPEAKER — I hate to tell you, my father does use his margarine containers to grow the seedlings.

Ms COOTE — I beg your pardon; thank you for that indulgence.

Mr HILTON — You mentioned world's best practice in relation to the Portland experience. In this reference there are lots of issues where I presume there is world's best practice. Where do you think we should go to find what that is and where that best practice is being practiced?

Mr PORTER — I would suggest that the first place to start would be the community based social market web site in terms of that sort of behaviour change program, and we'll give you a reference to that. That had, Kirsten, how many programs?

Ms LARSEN — I couldn't give you a number, but there are a lot of different cases studies.

Mr PORTER — So that's probably where I'd start in terms of those sort of intensive behaviour change programs.

Mr COLLINS — We are about to commission a small piece of work to actually get a literature survey of what constitutes good practice and what the lessons are in terms of behavioural change programs, so when we have that information available, we will be more than happy to make it available to you.

Mr HILTON — You mentioned a few programs that have been effective. I'm just wondering how the sustainability of that effectiveness has been, or is it something that people do for a couple of weeks and then lose interest and then go back to their previous behaviour?

Mr COLLINS — I think it varies a bit. There are some of these programs – and the Western Australian TravelSmart experience is one - where I think the behavioural change has been sustained for long enough to say you can make a significant difference. But what's interesting there is that it was this individually targeted program that not only made people aware of the desirability of using public transport, but made sure they knew when and how they could use it – got them to think about things they could do, and so on. And the more you could get people involved in these sorts of programs and support activity at a local community level, the more you've got the likelihood of being able to sustain a change. I think it's a good example that you might look at from that point of view, just as is the long-term effect that the Clean Up Australia campaign has had. It has raised awareness of the issues, got people to recognise that their activities can make a difference, got them involved. And I think you'd have to say that the impact of Clean Up Australia has not only been the cleaning up of litter, but the reduction in littering that is caused by people being more aware of the issues. The question is how do we use those sorts of approaches and achieve those sorts of effects more widely?

Mr HILTON — Just one final question. One of the references is to come up with initiatives that are low-cost at the household and community level. Now we'd like some guidance from the department as to what they consider to be a low-cost initiative in terms of the costs.

The CHAIR — And I'll jump in, because this was really the basis of my question, too. We've got TravelSmart at \$100 per household. I don't know whether it's for the department to say that's a low cost or for us to decide whether that's a low cost. I suppose it is a fair comment.

Mr COLLINS — You might want to ask the Department of Infrastructure that question, because if the choice is about whether you need to invest in very substantial additional road infrastructure to provide for the vehicles or pay the cost – which is very considerable and growing – of road congestion, \$100 a household, if you can achieve a sustained change, may well be very cost-effective.

Mr HILTON — But John, this is relating particularly to waste water and energy management at the household level and it could be useful for the committee to have some idea, so that whatever it recommends is not going to be seen as just too expensive, too grandiose, for the purpose of that.

Mr COLLINS — Yep, okay. We've undertaken to give the committee a formal submission. We'll address that issue in the submission. We wanted to focus today on giving you some of the general information. I suspect it's got two aspects of it ultimately: what the payback period is, and the amount of money that is likely to be invested.

Mr DRUM — I was staggered by the statistics that are facing Melbourne by 2030 – that we could be up to 20 per cent over and above our water needs. Our water needs consumption use in Melbourne would be possibly up to, say, 20 per cent over and above the maximum anticipated rainfall. Therefore, I swing over to – I've always been staggered by what we do with our storm water. The fact is, coming from a farm, every bit of corrugated iron roof anywhere would have a tank on it, and if it didn't have a tank, it would then have a pipe leading out to a respective dam. But we just have

this unbelievable city with all of its roof space, effectively just pouring its water into the ocean. Now the quality of that water – I know after a long dry period our bays are all flush with dirt, but I would imagine it would be a 20-minute flushing process, and then it would be brilliantly clear water.

Mr COLLINS — Again, in terms of the technical detail, you're probably better to ask Melbourne Water or the water retailers, but from my knowledge, when people are talking about rainwater tanks off roofs, those systems tend to be set up in such a way that they deliberately discharge the first five or ten minutes of runoff which cleans away the pollutants off the roof, so that you then get reasonably clean water. The other question in all of that is, what's the range of purposes that you might sensibly use that water for and what standard should you be looking at?

Mr DRUM — I was probably looking at a bigger scale than that in relation to communities.

Mr COLLINS — In terms of stormwater, I don't think we've done enough research. I mean, the community, the agencies; I don't think we've done yet an awful lot of work in terms of how we might use stormwater, but it is now very much on the agenda in a way that it wasn't in the past. In places like Adelaide, for example, where they have quite acute water supply issues, they have deliberately set up systems to recharge groundwater from stormwater. There are examples on the Northern Adelaide plains. Now the work needs to be done to say, "What's the potential in Melbourne for that sort of approach?"

Mr PORTER — Exactly what you just said, John. One of the initiatives in securing our water future, the *Green Paper*, said exactly that: that government would propose a proposal. The potential for integrating increased stormwater harvesting into the future planning process is being investigated, so I've just repeated what you've said.

Mr COLLINS — Equally there is a very large capacity to progressively use more and more recycled water out of wastewater treatment plants. For all sorts of environmental reasons, the general level of treatment of water through those plants keeps getting better and better. If you can do things to address some of the issues like salinity in some of the water that comes out of industrial processes, that goes to treatment plants, you make it more and more possible to recycle the water and add it to Melbourne's water resources. And I think we've got to do all of those sorts of things.

Mr DRUM — John, so you think that maybe Melbourne Water would be able to give us some possibilities in relation to on use of water, quantities of stormwater?

Mr COLLINS — Yes, there is a metropolitan water strategy that is targetting ways in which the demands on potable water supplies can be decreased. That was prepared basically with strong Melbourne Water input, so they would be able to give you that information.

Mr DRUM — Thanks, John

Ms DUNCAN — A fair bit of that is in the *Green Paper* on water; have you seen that?

Ms WILLIAMS — And it would be a significant in the *White Paper* recycling water is addressed.

Ms DUNCAN — We talk about sustainable communities; what do you define as a sustainable community?

Mr COLLINS — I'd go back to the simple and basic definition; it says we've got to have communities that use resources in a way that don't run down the resource base for future generations. We have to meet our needs in ways that maintain the ability for the future generations to meet their needs.

Ms DUNCAN — So intergenerational sustainability? But how do you define that on a community? You might want to stop the growth, but how do we say, well this community is self-sustaining, it's not adding to –?

Mr COLLINS — Well I suppose you'd do it by looking at the key areas of resource use, like energy, like water, and sort of –

Ms DUNCAN — So if they were below those sorts of averages, we would say they were sustainable?

Mr COLLINS — If they were below those averages, they would certainly be more sustainable. I think sustainability is a journey, not a destination, in some sense.

Ms DUNCAN — I like that.

Mr COLLINS — But if you were looking at Melbourne being sustainable, for example, I think I would start by asking can we satisfy ourselves that we can meet Melbourne's water needs

Ms DUNCAN — And beyond?

Mr COLLINS — Without building additional storages? That would be the first test I would use.

Mr SEITZ — The terms of reference for our inquiry – in particular the low cost and issues that would promote the efficient use of water – what are the barriers to developing localised use and scale of water? Just an observation – from my experience in Keilor, the sewage treatment plant in Brimbank Park, the water was discharged in the Maribyrnong River; they go to test the water constantly, and the river was being cleaned up, as we all know, 20 years ago, because we had it all polluted. Now we've got fish back and we've even got platypus back in Keilor – in spite of the treatment plant and the water being discharged. We spent millions of dollars, and we put a new tunnel and a trunk line up to Werribee's treatment plants. We decommissioned the treatment plant, and the market gardens in Keilor have been restricted to water use, but people could have been using this recycled water for their market garden.

In hindsight what has taken place is past thinking – and I'm talking now two or three years back not 20 – the question that we're now sort of looking at and asking, is having that experience and this whole plant having been decommissioned, you know a lot of money and a lot of investment in infrastructure could have been converted to something useful. You know the negative vibes that people in the community have from those sorts of things. And you're asking now what sort of attitudes and what are you looking at and how we can do it? I don't know if there is another treatment plant today being decommissioned that could change its filters, and everything else, to reuse the water in a small town and a small area.

Mr COLLINS — I can't comment on a particular case, because I don't know.

Mr SEITZ — No, no I don't expect you. I'm just painting a picture of some overviews on the problems on the issues.

Mr COLLINS — But I think one of the things that's important in terms of water area is that the technology seems to be going in the direction that makes it more and more feasible to have smaller-style plants and therefore localised reuse, and the further we go down that path the more possible it becomes to reuse a higher percentage of water. And if you've got a system that's set up so that water goes from way out in the northern suburbs, down to Werribee, then if you've got to reuse it from down there, you've got to face pumping it back up to where it can be used. But, as I say, my understanding of the technology is it's very much going down the path where smaller and smaller plants become viable.

Ms DUNCAN — The Aurora development.

Mr COLLINS — The Aurora development is a good example that you could look at from that point of view. There are also examples around now of what's called sewer mining, where water is drawn from a main service, treated in quite small localised plants – some of which look like shipping containers – and then used to irrigate open space, and so on. So we've got more options now than we've had in the past, and I think the water authorities are becoming more and more amenable to doing those sorts of things. Whereas in the past the assumption was that what you did with wastewater was send it to a large treatment plant, then put it out into ocean.

Mr SEITZ — So if I can follow up. What suggestion would you have? How would we as a committee recommend the good actions of the community? Because we are talking to householders on this issue and actually getting them motivated, and putting the pressure on water authorities and local government to start to change their thinking. Even in the existing areas, not just the new estates. It's fine in the new estates, but the bulk and the majority of Melbourne is settled.

Ms DUNCAN — It's all in green power.

Mr SEITZ — Yes, I know.

Mr COLLINS — I would probably look at what you could do at the level of local government before I looked at individual households, because I suspect there is probably still significant capacity for replacing potable water for irrigation of open space and other local government purposes. I'm sure the water authorities would be able to give you some information about which councils have got the best practice in that area. And the water authorities, I'm sure, will also be able to give you some information around some of the things that could be done in terms of household reuse. But the cost very often is getting the water from where it is treated back to the households. So inevitably that's going to mean we'll have to be looking at a new development – or because of particular situations – new plants where it is economic to run a third pipe, or whatever.

Ms DUNCAN — Four hundred households.

Mr SEITZ — Watering a golf course from it.

SPEAKER — There is a lot of work being done by Melbourne Water.

SPEAKER — About 400 to make it. So your Auroras and Caroline Springs – I mean, I think all future subdivisions will have all those; they will be the features of the new developments. It's about retrofitting and how much it costs.

Mr PORTER — Which is a different question of how far –

Ms DUNCAN — Matching up your recycled to where you want it, instead of spraying it over lucerne crops that no-one's actually harvesting.

Mr SEITZ — Thanks.

Dr WILLIAMS — There seems to be a lot of policies and programs across those three areas – energy, waste and water. Has there been an audit? Has DSE looked at all the players in all the different programs and polices that are in place to see whether there are overlaps or gaps?

Mr COLLINS — We are just starting on that.

Ms DUNCAN — Like you're doing that, or are you actually in the process of doing it now?

Mr COLLINS — We are just about to start on it.

Dr WILLIAMS — What sort of time frame are you looking at for that?

Mr COLLINS — I would've thought it would take us three or four months to have completed that.

Ms DUNCAN — I could just sit back and wait for that.

Mr COLLINS — It's only part of the answer.

The CHAIR — David, do you have questions?

Mr FAIRBRIDGE — Just one following up on George's discussion about packaging. You mentioned the national packaging covenant is one that springs to mind. Can you tell us a little bit more about that and how it's working, or how it should be?

Mr PORTER — I think that's the sort of thing that it might be easier to get the EPA in on. But the covenants John was referring to were the sustainability covenants under the Environment Protection Act that allow the EPA to work in a one-on-one hands-on way with a particular industry group or industry. And in the terms of the national packaging covenant, I think the EPA would be the best ones to speak to.

Mr COLLINS — And they can also tell you what they're doing around some of the product stewardship-type arrangements.

Mr PORTER — And the yoghurt containers!

Mr DRUM — While we're always on the lookout for new forms of energy – such as with the huge debate about wind farms at the moment – do we open up new electricity coal mine powered electrical power stations, or whatever? One of the other options that I think would be of great interest to this committee is if there were a possibility of having small electrical or energy powered units of the photovoltaic type – because the professor from the Latrobe University in Bendigo wanted to know if I knew about it and I said I had no idea. He said this has the potential for small manufacturers to effectively make enough power to look after themselves – and I asked if there were examples of that happening around the world –

Mr COLLINS — I think if you don't already have the Sustainable Energy Authority on your list of prospective witnesses, you need to ask them for advice on what the state of the technology is in terms of distributed electricity generation.

Mr PORTER — As a general comment, where those systems have been put in place to date has tended to be where there has been a premium on having no interruption to supply at all; to have 100 per cent reliability, so essentially being off the grid. And so you can imagine in Silicone Valley – some of the big computer manufactures, for them, they can't possibly go down with any supply disruption – so that's sort of added a risk management element to the cost around those. I'm sure SEAV would say the same thing as us, which is that they're still quite expensive by comparison with a grid supplier. Where I think a lot of the renewable energy sources are coming up and will come into their own is where there isn't already a grid connection, and so the alternative is extending the electricity grid out to where you are.

Ms DUNCAN — Does the DSE do anything with the electricity companies? Do you have any contact with them? For example, I tried to suss out how people's electricity bills are made up, and the whole way the metering is done seems to be a secret of immense proportions. It seems to me that under normal scenarios, normal domestic meters seem to heat up electric hot water systems on a 24-hour basis. Now there are meters, there are ways that you can get that reduced to a six-hour a day reheat on an electric hot water service. But you've got the Devil's own job trying to ascertain that, and also get your meter adjusted. Do you have any relationship with electricity at all?

Mr PORTER — We don't have a direct relationship. I guess we are aware of some of those issues, because we've worked with the Department of Infrastructure on some of those energy policy questions. But again the best people to give you a detailed response on that would be the energy policy people at DOI, and they may also want to talk or bring in the Essential Services Commission as the regulator.

Ms DUNCAN — We are adding to our lists.

The CHAIR —I think we are all done, thank you very much.

Ms WILLIAMS — We've done a fair bit of work on the Our Water Our Future campaign, and we did a lot of research into behaviour change prior to it being developed, so if you would like us to come back and run you through that, we would be happy to.

Ms DUNCAN — My big thing is that we use 35 per cent on our garden, and we've all had our garden water hugely restricted; how come we've only gone down 10 per cent?

Ms WILLIAMS — Only? I thought that was pretty good.

Mr DRUM — Bendigo went down 30 per cent.

Ms DUNCAN — That's right.

Witnesses withdrew

Committee concluded