LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON CLIMATE CHANGE, ENVIRONMENT AND WATER

(Reference: ACT greenhouse gas reduction targets)

Members:

MS M HUNTER (The Chair)
MS M PORTER (The Deputy Chair)
MR Z SESELJA

TRANSCRIPT OF EVIDENCE

CANBERRA

WEDNESDAY, 22 JULY 2009

Secretary to the committee:
Dr H Jaireth (Ph: 6205 0137)

By authority of the Legislative Assembly for the Australian Capital Territory

Submissions, answers to questions on notice and other documents relevant to this inquiry that have been authorised for publication by the committee may be obtained from the Committee Office of the Legislative Assembly (Ph: 6205 0127).

WITNESSES

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Amended 21 January 2009

The committee met at 2.01 pm.

BLAKERS, PROFESSOR ANDREW, Director, Centre for Sustainable Energy Systems, Australian National University

THE CHAIR: To start this afternoon's session and hearing into the greenhouse gas reduction legislated target for the ACT, an inquiry being held by the climate change committee, I would like to welcome Professor Andrew Blakers, who will be presenting to us this afternoon. My first duty is to ensure that you have had an opportunity to read the privilege statement and that you understand the content of that statement. Thank you, Professor Blakers. We might start. Did you want to start with an opening statement?

Prof Blakers: Just a very short one. My main area of work is in solar energy technology but I have a strong interest also in the reasons why we should work in this area, which is to address climate change. I have been aware of the existence of climate change ever since I started looking at physics. It is completely obvious to a physicist that we are going to run into trouble; the only question is when. We are now running into trouble. I am not a climate scientist but of course I am aware of much of the work that is going on in many different branches of science, nearly all pointing in the same direction, that we are just at the cusp of truly monumental changes to our planet which will be irreversible on any human time scale.

The main message I have for this committee is that the ACT has an unalloyed interest in sharply and quickly reducing its greenhouse gas emissions because the ACT does not have any heavy industry or any major CO_2 emissions. It does not have electricity production, oil, gas, coal, aluminium, cement, forestry on any significant scale or even agriculture. All of these are major greenhouse gas emitters. We do not have any of them on any significant scale.

If we reduce greenhouse gas emissions, since energy is the predominant source of greenhouse gas emissions in Canberra, it means that we will reduce the export of money to pay for imported gas, oil and electricity in particular, and in order to accomplish this feat we will have to address where the major greenhouse gas emissions in Canberra are. And that is from buildings. We can have a 10-star building code but that is not going to address greenhouse gas emissions in Canberra any time soon because it takes 30, 40, 50 years to turn over housing stock.

The central message is: to address greenhouse gas emissions, we should engage in a mass retrofit program in Canberra buildings. This will be labour intensive, local labour intensive. The winners are plumbers, builders, solar water heater installers, insulation installers and the like, and the losers are Hunter Valley coalminers who do not live here and do not vote here. The winner also is the environment.

I have one last point, to take it a little bit wider. The fact that Canberra has this unalloyed interest in reducing greenhouse gas emissions from a purely economic and employment point of view is coupled with the fact that Canberra also has very strong research, development and commercialisation activities at the Australian National University and we have several companies that have the potential to become quite substantial employers in producing solar energy technology in Canberra, such as

Spark Solar, Dyesol and several others. We also have a large power station in the offing as a result of a promise by the current government during the election campaign.

The only thing that is really missing from a complete suite of greenhouse gas mitigation endeavours is support for local manufacturing. If we can put that in place, along with the retrofitting, the ACT will be the solar energy capital of Australia.

THE CHAIR: Thank you. You state that it is relatively easy to halve Canberra's stationary greenhouse gas emissions by 2020. The ACT government, you may be aware, has announced a zero net emissions policy. In our terms of reference for the inquiry we are being asked to report on a legislated target for the level of peaking of emissions in the ACT, a target for 2012 and a target in reductions for 2020. Do you have any comments on a proposed legislative target for the ACT and the 2012 and the 2020 targets?

Prof Blakers: I certainly think it is nice to have an aspirational target of zero net greenhouse gas emissions and it is certainly feasible, obviously not in the 2020 timescale without major disruption. But it is very important of course to have interim targets, otherwise all you are doing is setting up a future government to fail, because you must have targets for 2020, 2012, 2015, 2025.

I think what we need to do is mark a point on the calendar that we get to zero, draw a curve back to today and have an independent commission whose job it is to ensure that we stick to that curve. As I mentioned, I think it will be much easier for Canberra than almost any other city to get there, because of the reasons I outlined.

THE CHAIR: In your submission and in your opening statement, you outlined a clear set of measures for reducing emissions, particularly on the retrofitting of buildings and so forth. You state in your submission that political will is more important than cost and you mentioned removing legislative impediments. You talk about seed funding, promotion and facilitation. What exactly do you want the government to do?

Prof Blakers: The first thing I would like to say is that it is not the government's job to go and retrofit 110,000 Canberra houses. The government's role is to make a very clear statement that it is going to happen and to, firstly, remove any legislative impediments—and I will come to that in a moment—and, secondly, to set out to encourage the private sector to deliver on this goal.

There are a number of possible impediments that the government can assist with. When you retrofit a building, it costs money, of course. You pay money up front in order to put in insulation and solar water heaters and weather stripping and all the rest. And there are a number of questions as to where this money comes from. It should not come from government; it should come from the building owner who is the beneficiary of the reduced energy costs.

But to make things very simple and easy, it might well be advantageous for many people that this debt belong to the house so that essentially it is added into the mortgage or, if there is no mortgage, the debt is somehow added into the house and

then is paid off when the house is sold, in the same way as outstanding rates or water or electricity bills are adjusted when the house is sold. If there are any legislative impediments there, they should be smoothed away. That is the negative side of things.

The positive side of things is: what can the government do? The government needs to set very clear guidelines that this is going to happen and that there is going to be a business here in retrofitting, mass retrofitting—70 per cent of our greenhouse emissions are from buildings—and that companies that have the capacity to do this retrofitting need to get into the game or the competitors will beat them. If the government is sufficiently clear, everybody who has the capacity to do this work will feel they have to do this work.

Consortia containing all the necessary skills will form and will be able to compete against each other to do the retrofitting house by house, building by building, at lower costs. The government can also put in modest amounts of money to kick-start things, for example, offer a bounty or a bonus to whoever promises to solarise 1,000 houses for a certain sum of money in the best possible way or, for example, you might choose a suburb with a lot of low income people, a lot of renters, to assist significantly in that suburb to get the scheme underway to allow the consortia to form and hone their business model in order to roll it out across Canberra—there are 110,000 houses in Canberra—and then later across Australia and be the leaders in Australia of the mass retrofitting that will happen.

THE CHAIR: On the solarisation, you talk about consortia. What are the failings of current arrangements that led you to advocate consortium arrangements?

Prof Blakers: The number one failing is that if you want to solarise your house you have got to deal with three, four, five, six, seven trades. If you want to build a house, you do not deal with the plumber, the bricklayer, the glazier, the curtain maker and everyone else; you deal with the builder. And the builder organises all the trades. There are very good reasons for that. The builders know all of the trades and the would-be house owner does not.

Similarly with solarisation where you are going to be outlaying between $5,000 and $15,000, it is hard work to find out who a good plumber is, who a good solar water heater installer is, who is a good insulation installer, who can do double glazing, who can put pelmets and good curtains up, who can put the photovoltaic system on the roof. So you need consortia that have all of these trades in the consortia and the house owner deals with just one person. You sign the contract with this one person. You complain to this person if things go badly and you congratulate them when things go well. You need it smooth and easy.

THE CHAIR: And do you see the government having a role in helping to set up this arrangement?

Prof Blakers: The government has two roles. One is to make it perfectly clear that we are going to do this and that consortia will be doing it and that if you have got the skills and you do not get into the consortia you will be left behind by other people who do. That is the first thing, to be very clear that this is going to happen.

The second is to assist with the inevitable higher costs in the initial stages while a business model is honed. And this can be done by offering bounties, prizes or special deals for the first 1,000, 3,000, 5,000 homes, where essentially you subsidise them in order for the consortia to settle in and work out the business model and then roll it out across the remaining 100,000 homes.

I would like to point out that this is a large potential employer. If we did 110,000 homes in Canberra—perhaps 70,000 or 80,000 of them are not four or five stars—we are looking at, say, 70,000 homes on which we want to spend between $7,000 and $10,000; say, $10,000 each. We are talking about $700 million. That is a $70 million per year industry that we will invest in and then we will recoup that money by reducing sharply electricity and gas imports in the future. Roughly speaking, it is $100,000, $120,000 per job. We are talking about a lot of jobs—hundreds and hundreds, 500 to a 1,000 jobs in Canberra—and that is not a bad thing to have in a recession.

THE CHAIR: Ms Porter?

MS PORTER: I am making a presumption here that when you are talking about retrofitting buildings—you mainly talk about homes—you also mean commercial buildings.

Prof Blakers: Absolutely.

MS PORTER: And how would you see the arrangement working in the case of rental buildings overall? We do have quite a big number of people in the ACT that rent homes and people that rent large commercial buildings.

Prof Blakers: Of course it is much simpler if the owner occupies the dwellings, because they get the bills and also share the benefit of upgrading the house from nought stars to five stars. In the case of a rental property, it still works. The reason is that the consortia will come in and do the house or the building. Just say it is a house; it will cost, say, $10,000 and there will be a couple of thousand, $3,000, cash back from federal government programs—the roof insulation, solar water heater rebates and the like—so there will be perhaps $7,000, $8,000 debt belonging to the house.

The difficulty of course is that the house owner does not pay the energy bills but the fact is the energy bills will go down; so the house owner would be entitled to collect an increased rent to reflect the fact that the tenants are no longer paying as much for their energy. And there is a significant role for government in studying this in detail and issuing guidelines to allow this to happen. In the case of government-owned, low income houses, then it is clear again that the government has an interest in assisting people who are not well off to reduce their energy bills.

MS PORTER: You talk a lot about the individual work that can be done retrofitting buildings; you do not talk about solar farms and those kinds of things. Do you have any comment about those kinds of initiatives as well? Where do you see the cost benefit of both kinds of models or do you think we should be introducing both?

Prof Blakers: It is completely obvious that retrofitting will produce much larger

greenhouse gas emission reductions than active solar in the initial phases. In the document I provided, I gave an example of my own house. It is obvious that it was much cheaper to save energy than to generate more energy. Of course, eventually the point comes where you are really chasing the last little bit of energy. It is very expensive to do that and it is cheaper to collect more energy from your house roof. So certainly solar water heaters for energy collection should be on every house.

But the plain fact is that Canberra, the ACT, has no significant wind reserves, though there are in the area around Canberra, and that Canberra does not have suitable land for large-scale, ground mounted solar. You need large areas of flat land with high insolation. If you go 200 kilometres west then these exist in unlimited quantities. But not in Canberra. It is hilly and Canberra is east of the ranges, not west.

The two areas where you could get substantial generation of energy from the sun in Canberra are solar water heaters and roof mounted PV systems, and these should certainly be encouraged. But the prime encouragement should be retrofitting.

THE CHAIR: Mr Seselja?

MR SESELJA: Thank you. Professor Blakers, thank you for coming today. I note a lot of your comments are on retrofitting. I think that is clearly an important part. I am also interested in the second part of your submission, the progression of solar energy, I suppose, and what we expect to see in the coming years. I know you have touched in the submission on when you see us reaching price parity and the like but are you able to expand for us a bit on how far you see it progressing in the next few years, perhaps with current settings and, if there is some tweaking of government policy, how much we could actually see solar progress as a viable energy source into the future?

Prof Blakers: The tweaking of government policy in terms of grid parity for photovoltaics actually should happen in other states. I think the Canberra arrangements are good. They are obviously the best in Australia. The feed-in tariff is a great thing and it has the potential to really put Canberra on the map as a market for solar panels.

Closely related to that, I would strongly encourage all members of the Assembly to focus on the need, the strong desirability, to have local manufacturing in Canberra, because it is a bit of a shame if most of the solar technology is imported, photovoltaic panels, when there is the opportunity to actually manufacture in the Canberra district.

In terms of more global grid parity, in southern parts of Europe, where you have got pretty good sun—not as good as Australia but pretty good sun—and much higher energy prices because they do not have an abundance of coal or gas, grid parity is likely to happen within two to three years. This means it will be cheaper to generate electricity from your house roof than to buy extra electricity from the grid. And this will gradually sweep north over Europe, as prices continue to come down for photovoltaics and go up for fossil fuels as carbon price gets added in.

Australia will be much later—five, six, seven years later—so I would not expect grid parity in Australia before 2015 perhaps or later, simply because our wholesale

electricity prices are so much lower. However, adding in carbon price and adding in time-of-use tariff will certainly assist that process. That said, we are looking, within a decade, that in most places in the world it will be cheaper to get electricity from your building roof than it will be to get it from the grid.

MR SESELJA: So this is with a carbon price and with all the settings we expect to see or this is just upon the basis of technology progressing?

Prof Blakers: Carbon price hardly makes any difference if your energy price is 30c, 40c per kilowatt hour, as it is in many parts of Europe. So you are adding another 5c a kilowatt hour for the carbon prices but that does not make a big difference. It makes a bigger difference in Australia. Canberra has got a tariff, a retail tariff, of about 15c per kilowatt hour. A proper carbon price would take that up to about 20c. A time-of-use tariff would move that up to about 25c equivalent. At the moment, photovoltaics is discriminated against because it generates on hot summer afternoons when the wholesale price of electricity shoots way, way up, driven by shortages; yet before the feed-in tariff was introduced, the PV electricity that was produced during those times was priced at 7c or 8c a kilowatt hour.

So I think it is quite important, as part of the retrofit program, that we also retrofit time-of-use meters so that people pay properly for electricity on hot summer afternoons and very cold winter nights when the price is high. It discourages excess use and will save ActewAGL money in terms of upgrading transmission lines and transformers.

MR SESELJA: Just on another issue, in your submission you talk about the different ways of ensuring we get baseload power and storage from solar. You talk about one of the ways of doing that; you talk about the judicious use of small amounts of natural gas. Other people who have come before the committee have certainly said they do not see the need for gas; others have said that gas is a good transition fuel. What is your overall view of the role of natural gas, moving forward?

Prof Blakers: I think natural gas is a very important transition fuel. It has got roughly half the greenhouse gas intensity of coal, particularly brown coal. Of course, there is also another very attractive option to lop off peaks and troughs—that is, pumped hydro, which is completely standard technology. There are many pumped hydro stations around.

The important thing to understand with pumped hydro is that if you are trying basically to cover the night, that is day-night storage, the area of lake required is tiny. About 30 hectares would be required to store all of the electricity used in Canberra during the day for the night. The big lakes you see in the Snowy Mountains and in other places around Canberra are for seasonal storage, that is, winter to summer. But if it is just day-night, the lake is 100 times smaller because you are only dealing with one night instead of 100 nights. You can ring up and buy these things tomorrow. There has been a lot of rubbish talked about how hard it will be to cover baseload with solar, and that is all it is—just rubbish.

MR SESELJA: Obviously there would be the potential for the use of existing infrastructure in our region, but looking around the country, what are some of the

capital costs with pumped storage?

Prof Blakers: The capital costs include those of only a very small dam. So it is all in the pipe and the generator which acts as a pump as well as a turbine. The costs of pumped hydro storage are well below $1 per watt. If you have got a lake and you have got a gigawatt of turbines running off that lake and you want two gigawatts, you just put in more pipes and more turbines. If you want 10 gigawatts you put in 10 more pipes and 10 more turbines. The power that you can generate is determined by the number of turbines you have got. The energy storage is the lake and you do not need a lot of that if you are basically storing day to night.

THE CHAIR: Mr Rattenbury?

MR RATTENBURY: Thank you. I wanted to pick up on the first page of your submission. You talked about the establishment of an independent statutory authority—Greenhouse Canberra, I think you called it. Why do you believe we need to establish such an authority and what sort of powers would it have?

Prof Blakers: The reason for establishing the authority is that this is such a large issue that we have to address it in a slightly non-standard way. By having an authority, the government or the legislators in this city are telling the population that they are dead serious about this issue; they are setting up an independent watchdog. I do not think that the watchdog would have coercive powers. It could not order the government to do this or that, but it would make recommendations or it would have a significant budget for education. It would have a significant budget to kick-start schemes and it would have equivalent powers to the commissioner for the environment. Initially, it could be the commissioner for the environment, but later it might be good to separate the two roles.

MR RATTENBURY: Yes, I was going to ask you whether you thought there were any existing authorities that could take that role.

Prof Blakers: Yes. Obviously, she is the first cab off the rank, and she knows the issues well.

MR RATTENBURY: I want to seek your comments on some existing programs running in the ACT. The government has just announced $14 million for the switch your thinking program, of which $1.2 million will next year be provided for rebates on efficient appliances, domestic insulation and solar hot-water rebates. Do you think this is the most effective way for the government to spend its money and do you think it is the best "bang for buck", so to speak?

Prof Blakers: No. I come back to what I said before in relation to Ms Hunter's question. The most important thing is to make solarisation, mass-retrofitting, smooth and easy. By asking individuals to go and get advice on a solar water heater and then go to another place for double glazing, and then to another place for plumbing, just does not cut it. Only the committed individuals will go and do that. You have got to make it just so easy, just like ringing up a builder and getting a quote on building a house. The builder takes care of all the details; the lawyer takes care of all the legal details. You need somebody who will take care of all the retrofit details. You need consortia that have got everything inside them, and close the loop. So the advice

comes integrally with the ability to implement the advice.

MR RATTENBURY: I also wanted to ask you about your comments on the feed-in tariff and, in particular, equity concerns. You made reference to there being an effective subsidy on the users of air conditioning. Can you explain that a bit more clearly for me.

Prof Blakers: Yes, of course. At the moment, I do not know what the numbers are, but perhaps half of Canberra's houses have air conditioning and half do not. And the fact is that air conditioning runs primarily during hot summer afternoons when the pool price, the wholesale price, jumps way above 5c or 6c per kilowatt hour up into 10, 20, 30, 40 or 50c per kilowatt hour. But people who have air conditioning continue to pay the retail tariff of 15c. So it is just set at an average, summer, winter, day, night. It must be set at a higher level to cover the very high costs on summer afternoons driven by air conditioning. This means that people who do not have air conditions are paying the higher tariff all the time as well. And since it is mainly wealthy people who have air conditioning, and owner-occupiers, the net effect is that you have a very large cross-subsidy from poorer to richer people. It dwarfs any subsidy involved in the PV feed-in tariff.

MR RATTENBURY: So how would you minimise that subsidy?

Prof Blakers: Time-of-use tariff would be the obvious thing. That means that you have smart meters that are really smart and the cost goes up from 12c when energy is abundant to 15, 20, 30 or 40c when the wholesale price shoots up.

MR RATTENBURY: I noted your earlier comments on the feed-in tariff. Do you think the feed-in tariff needs to be expanded to include medium size installations—one or two megawatts, for example, or perhaps larger?

Prof Blakers: No, I would not encourage that. A one or two megawatt installation implies ground mounted, and the ACT really does not have good areas for ground mounted PV systems. It is not flat; it is not the best insolation in the world. The best place for it is on roofs. I think 30 kilowatts is the limit at the moment, and I think that is appropriate.

MR RATTENBURY: Moving on to renewable technology, and given your role at the ANU, could you tell us about some of the difficulties you have had in getting support for initiatives developed at the ANU. I noted with interest your comments about expanding the industry in the ACT. The research work you have done would perhaps be the foundation for such work. Why hasn't it happened in Canberra?

Prof Blakers: Many of you would be aware that there are at least two companies in Canberra—one in Queanbeyan and one in Canberra—that are actively seeking to establish manufacturing. There is hot competition from around Australia, and at least two other cities are offering very substantial support for this company to go and set up there. Good for them, but it would be great if it was set up in Canberra. We have a soft spot for one of these companies because several of our ex-PhD students are running it. But we need to close the loop, so that we have got a great feed-in tariff, a great retrofit program; we have got great R&D at ANU. If we could also have manufacturing in Canberra then we have got everything here. We can really be the

solar capital. I strongly encourage that to happen. A $5 million or so grant is what is required to achieve this, because that is more or less what is being offered elsewhere.

MR RATTENBURY: Thank you.

THE CHAIR: I want to raise an issue that has come up in this inquiry: if, at the federal level, the CPRS, for instance, comes into being, there is a view that, whatever we did here, even if we had a legislated greenhouse gas reduction target, it is of no use because across Australia we are not actually reducing our gas emissions and so forth. Do you have a view on that?

Prof Blakers: This is a very difficult question to foresee. Certainly, it will be true in the early years that if we have got a target then, no matter what you do, it just makes it easier for the polluter down the road to continue to pollute. That is certainly true. I strongly suspect that the science of greenhouse is going to become so drastically dire in the next decade, and so obviously dire, that the targets of five to 25 per cent are going to become redundant. It will again be the case that you doing something helps.

Of course, if you are generating renewable energy from solar water heaters or PV systems, which are really the only two options in Canberra—both of them roof mounted—then you are addressing the 20 per cent or the 45,000 gigawatt hour per year target for 2020, which stands outside the CPRS, and that is a good thing.

You will notice that most of my comments have not been based on the desirability of reducing greenhouse gases in Canberra. It is based on a purely economic argument that retrofitting saves energy, it saves export of money and it imports jobs. It is a good thing to do regardless. And adding a carbon price simply makes it an even better thing to do. It is just good economics for Canberra to reduce the export of money to pay for our electricity.

THE CHAIR: You were talking about those sorts of green-collar jobs, if we could start up manufacturing—and even if we did not get the manufacturing going, the sorts of jobs if we looked at a large-scale retrofit program. Do you see those as longer term jobs? Some people would say, "But they're only going to be short-term jobs."

Prof Blakers: If we did a mass retrofit over 10 years, that is 10 years of jobs for 500 to 1,000 people, which is no mean thing. In the longer term, it is highly likely that there will be a mass retrofit program across every building in Australia. That is 10 million buildings or something like that—a vast number of buildings. And the question is: who will control the consortia that dominate this market? The answer is: those who get in first and get their business model honed. And why shouldn't that be Canberra businesses? This is a long-term, highly-paid, white-collar job market for Canberra.

THE CHAIR: Thank you very much for appearing this afternoon, Professor Blakers. We will send you a copy of the draft transcript for you to look at. If there are any inaccuracies, could you please let us know. Thank you very much for appearing before us.

Prof Blakers: Thank you.

ANDERSON, MR GRAHAM, Senior Consultant—Climate Change, Pitt and Sherry

THE CHAIR: I welcome Mr Graham Anderson, who is a senior consultant on climate change with Pitt and Sherry, which was previously Energy Strategies.

Mr Anderson: That is right.

THE CHAIR: Have you had an opportunity to read the privilege statement and do you understand its content?

Mr Anderson: Yes.

THE CHAIR: Would you like to start with an opening statement?

Mr Anderson: Thank you, Meredith. No, I will not start with an opening statement. I need to seek the committee's indulgence in that my mother died last week and the funeral was just yesterday. I have not been involved in this over the past few weeks, so I might take some of your questions on notice. I do not have an opening statement. Thank you.

THE CHAIR: Thank you for appearing before the committee at this difficult time. I would like to start with a bit of a history around the greenhouse inventory. Through Energy Strategies and now Pitt and Sherry, you have been doing the ACT inventory for some years now. Can you provide a brief history of the inventory and the significant changes during that time?

Mr Anderson: When I started with Dr Hugh Saddler and Energy Strategies in 1998, my first job was to work on what was probably the 1995 inventory and also a 1990 inventory. I have calculated subsequent inventories, not every year but for a number of years through that period.

I think it is important to have a bit of background on why we calculate and why we need a separate inventory for the ACT. The Department of Climate Change, previously the Greenhouse Office, now produces consistent state and territory inventories that mesh in with the national inventory. That is actually quite recent. That has been fully in place for the past three or four years. That was always their intent. Over the past 10 years we have seen a coming together of the state and territory inventories.

Now it is the case that soon after they publish the national greenhouse gas inventory the Department of Climate Change releases state and territory inventories. Those are also available online. It is possible to get breakdowns by economic sector and by fuel and so on. Why do we continue to produce an ACT inventory? Well, part of that follows from the sort of stuff that Andrew was talking about. We import a lot of electricity; we import all our electricity. If we were to just use the IPCC-Kyoto approach we would not count those emissions that are associated with that electricity use because that is counted in New South Wales. Because we want to take responsibility for the emissions associated with our energy use then we have to construct a separate inventory for ACT. That is really the background to why we

continue to do that.

THE CHAIR: As you said, the aim of the ACT greenhouse gas inventory is to provide a clear understanding of both the total amount of greenhouse gas emissions and also the greenhouse intensity—the amount of emissions per capita. You have obviously completed the 2005-06 inventory. It has been released to the committee and I believe it has been released publicly by the government. Could you give a bit of an overview of the key findings in the 2005-06 inventory and any key factors that are peculiar to the ACT? Then can you comment on the 25 per cent increase in emissions above 1990 levels, which seems very large, particularly as the national inventory indicates that in 2006 there has been a 5.2 per cent increase since 1990—so an explanation about the large increase in the ACT?

Mr Anderson: Okay.

THE CHAIR: If you need me to go back in steps through that as you go, I am happy to.

Mr Anderson: Another reason why it is really good to do a separate inventory for the ACT is that the activities that result in greenhouse gas emissions in the ACT are quite different from elsewhere in the country. Our circumstance and our economy are quite different. We have almost no industry, almost no agriculture, and elsewhere in Australia they make up a large fraction of the national emissions. This also explains why the changes in emissions over time in the ACT are different from the national emission picture. Most of our emissions are associated with stationary energy use. That is electricity and gas and that is for residential and non-residential purposes. That makes up most of our emissions.

That is not the case for the rest of the country. If we see growth in the residential sector in the ACT or growth in the non-residential sector, the business sector—we have all the national institutions here and all the federal government departments—then that affects our inventory. That goes a long way to explaining why our emissions trend is different from the national emissions trend. It also gives us an incentive to do the sort of stuff that Andrew was talking about, because otherwise we will stand out. Otherwise ACT emissions will continue to increase against the national trend.

MR SESELJA: With that inventory that you did that counts emissions which are created over the border but are consumed here, are other states doing the alternative? Are New South Wales and Victoria and others who produce energy discounting the amount that is consumed?

Mr Anderson: In the scheme of things, the ACT's are not a large fraction of the New South Wales emissions. They do not do that. In some of the charts that I have produced, in order to make a comparison to other jurisdictions, I netted the change in ACT's calculated emissions compared to what the climate change office had produced for the ACT. I netted those off New South Wales as a way of normalising.

When you are making comparisons you need to know the context. You cannot just say, "Oh, well, this one was this much, say, per capita or this one was this much per capita." You need to know the context that is associated with those calculations. Other

jurisdictions do not do that, and I guess do not need to, because most of the time their emissions are contained.

Those sorts of things do impact on the national inventory. Say when we export LNG—a huge amount of energy goes into making that and exporting it and then it gets used in China or wherever. It counts against our inventory, whereas actually we are providing a service because natural gas is a low emissions fuel. If somewhere burns that instead of coal, that is good. It is not an easy task making jurisdictional comparisons.

MR SESELJA: Indeed. Acknowledging that the challenge is that, despite being a relatively small part of the equation vis-a-vis New South Wales and the rest of Australia, there is some double counting from time to time in the sense that New South Wales would be counting these emissions and we are counting them because we are consuming them.

Mr Anderson: Yes. If we were publishing something on that and comparing ACT to New South Wales, we would be careful to either make those adjustments or note that. But on that point, unless we did an ACT inventory, if ACT were to reduce its emissions now, that looks good on the New South Wales bottom line.

THE CHAIR: Just to go back to that 25 per cent increase in emissions above 1990, we have the weathering the change strategy, which is a government strategy, and also a state of the environment report. Both of those stated that the ACT emits 4.45 million tonnes per year and our per capita emissions increased 10 per cent on 1990. The figures that I have just quoted are quite different from the ones that are coming out in the inventory. Does that tell us that the figures in weathering the change and the state of the environment report are wrong?

Mr Anderson: They are not wrong. There have been some changes in methodology and things have been refined since then. There are two inventories involved, or three involved in the weathering the change strategy. Probably the most accurate there is the 2000 one. I can remember doing that inventory and I chose to use the same emissions intensity factor for electricity that was being used by the ICRC at the time because they were publishing reports that included ACT's greenhouse gas emissions associated with stationary combustion, electricity and natural gas.

For consistency, I used the same one. It was just a judgement call that Dr Hugh Saddler and I made at the time. Since that time we have got better energy data from ICRC that includes transmission losses in the ACT. That enables us to more accurately calculate our emissions associated with electricity, so we changed the emission factor that we used for electricity in the inventory series that has just been calculated. That accounts for some of the changes.

THE CHAIR: Thank you. Mr Rattenbury?

MR RATTENBURY: I wanted to ask you a bit more about the inventories. I have had a chance to read it now. I think there are some very interesting figures there. This comparison of the figure you have of 4.02 million tonnes and the 4.45 million in the change of the inventory—you say that is really just an improvement in methodology?

Mr Anderson: Yes, a methodology change. In consultation with DECCEW and TAMS, we changed procedure. At each inventory from now on we will produce a whole series back to 1990. That is actually what the IPCC group practice guidelines recommend. I guess this is happening all over the world in all jurisdictions to tighten up the accuracy and to make it more usable.

Now that we are doing that, it is really the current series that we should use as a reference and then next year that line might move a little bit. But whatever targets were set, whatever years were used for the baseline—if the targets were set as a percentage of those baselines then that is just what you use. That is the normal practice, nationally and internationally, and not to worry too much if a baseline year has changed. It is okay; it means that it has not changed the aspirational target, whatever percentage that you are using as a base off that.

MR RATTENBURY: Speaking of baseline data, can you tell us how accurate the data is for 1990 in particular? I might rephrase the question slightly. There has been quite a political discussion about whether we should use 1990 or the year 2000 as a baseline. Perhaps you can comment on the accuracy of those two dates relatively speaking?

Mr Anderson: It is probably a similar level of accuracy. In 1990, we still had the fuel franchise. There was a transport fuel franchise. We are pretty confident about the transport fuels and also the electricity data in those years. It could be the case that 1990 is a little more accurate, but it is equivocal. I do not think it matters that much. As to whether we base on 1990 or 2000, a couple of years back I found myself getting annoyed at various leaders who would make announcements about reductions when they were based on some recent year. That is actually common practice now. I think I heard Obama talking about reductions based on 2005. I am not too worked up about that. As long as we change the trajectory from one of increasing energy use and increasing emissions to decreasing them, that is really the important thing.

MR RATTENBURY: Thanks for that. But from a technical and accuracy point of view, there is no reason why the ACT could not use 1990 as a baseline?

Mr Anderson: No, that would be fine.

MR RATTENBURY: Can I keep going?

THE CHAIR: You could have one question, before we go back to other members.

MR RATTENBURY: I want to ask you about the per capita emissions for the ACT. The inventory shows that the ACT's direct emissions per capita are a lot lower than the rest of Australia. You touched on this earlier. Can you elaborate on the reasons for that?

Mr Anderson: When we look at our national emissions—we take the greenhouse gas emissions that are associated with all the activities of our economy: agriculture, extracting industry and other emissions, intensive industries like aluminium; we take all that—we divide it by the population, which is actually a good thing to do. And we should be aware of that, even in ACT. We should not be too proud that we have the lowest because the benefits of the economy that we get to enjoy when we export lots

of aluminium and alumina, iron ore and energy, mean we have a benefit from having a healthy national economy. But that does not show up in our local inventory.

That is why Australia's emissions per capita are something like 25 tonnes of CO_2 per capita. It is because of all those other emissions and emissions from all those other industry sectors. And then they show up in the states or territory that they happen to be in. If you look at the emissions per capita of the Northern Territory, they are incredibly high. Even though they do not do much transformational industry, they use a huge amount of diesel in pulling things out of the ground and so on, and electricity generation; so of course they have got very high per capita emissions.

MR RATTENBURY: In thinking about the ACT's greenhouse impact, one of the things I then struggle with is the idea of the carbon footprint because, as a relatively wealthy city, we consume a large amount of embedded greenhouse gases. Is there any way that we can accurately measure the carbon footprint of the ACT as opposed to a more traditional greenhouse gas inventory measurement?

Mr Anderson: Yes. I guess one way to do it would be to think about comparing a similar jurisdiction. You would think about a city that is like the ACT and what it is like for that city. A city like Canberra may be Albury-Wodonga or something like that. Really we are comparing an urban context. And that is happening with the cities for climate change stuff. They do it at a local government area. So if we were wanting to make comparisons then it could be useful. Is that useful?

MR RATTENBURY: I think it is a difficult area if someone is trying to think about it.

Mr Anderson: It is really difficult.

THE CHAIR: I might go on for a moment. You are probably aware of OSCAR, which is the ACT government agency for ESD reporting. The inventory does not provide a breakdown of emissions from ACT government operations. Are you able to answer questions on the greenhouse gas emissions from ACT government agencies at all?

Mr Anderson: I could not do that off the cuff. I could have a go.

THE CHAIR: Okay.

Mr Anderson: Let us elaborate about OSCAR. For the record, it stands for online system for comprehensive activity reporting. It is the system and interface that is used by national, state and territory governments to track their energy and greenhouse use and emissions and it is also the interface that is being used for NGERS, the national greenhouse energy reporting scheme. So all large companies across the nation are having to use OSCAR to report their energy and greenhouse.

THE CHAIR: I will try these questions. Do you have figures on the level of emissions from ACT government agencies?

Mr Anderson: No, I do not, but it would be possible to obtain or calculate that from the top-level electricity use from whole-of-government and natural gas and transport. OSCAR is not up-to-date with that level of detail, as far as I know.

MR SESELJA: What would it require to get that kind of information?

THE CHAIR: How could we improve that reporting?

Mr Anderson: I know that work is being done on that—that government agencies are being asked or required to report energy use and emissions—and work is being done to get government agencies up to speed on using the OSCAR interface and putting their data in. I concede that it is a new thing. In a way, it is asking government agencies to be responsible and know about their energy use and report it. Previously they would have just paid the bill, just like the rest of us.

THE CHAIR: As you may know, the ACT government has announced a policy of zero net emissions. The terms of reference of this inquiry are asking us to report on a target for the level of peaking of emissions in the ACT, a target by 2012 and a target by 2020. What do you expect could be the soonest that we could achieve a level of peaking in the ACT and what do you see as realistic targets for 2012 and 2020?

Mr Anderson: This is important. The ACT is in a tricky position because of the different configuration of our economy. It is mostly built environment, residential and commercial buildings. If the size of our non-residential sector grows and the size of our residential sector grows as well, our emissions will grow because they are correlated. You asked about when and what a reasonable target would be?

THE CHAIR: Yes. When do you think the level of peaking will happen?

Mr Anderson: Will be? When I think? When I expect it to peak?

THE CHAIR: When could we achieve a level of peaking, yes, and then the targets for 2012 and 2020 greenhouse gas reduction?

Mr Anderson: I would like to take that on notice. I can write to the committee about that.

THE CHAIR: Thank you. Mr Rattenbury?

MR RATTENBURY: In the inventory, you have noted the increase in ACT electricity emissions since 2005, at 2.6 per cent. That is significantly higher than the increase in national electricity generation emissions since 2005, at two per cent.

Mr Anderson: Yes. That was just a quick way of doing a comparison, how are we compared to the national.

MR RATTENBURY: What explains that difference?

Mr Anderson: What that is saying simply is that electricity use in the ACT is increasing at a higher rate than electricity use outside, and what that means is that our residential and non-residential demands are growing, either by population growth and more suburbs or by more commercial buildings.

I think I said that residential electricity use is actually pretty flat. There are a couple of things that explain that. There is energy efficiency coming in and there would also be

some fuel switching, people are using more natural gas. I did not go into analysing that. I just noted that actually residential use is flat. That is great.

But the non-residential sector is increasing in size. We have more national institutions. We have just got a portrait gallery and so on. There are extensions on all the national institutions, all the federal government, and there are the other institutions that are growing. We have got four universities, I think. There is all that sort of thing.

THE CHAIR: It might even be up to five.

Mr Anderson: Yes, and they are huge. That is what explains it. The increase in electricity use in the non-residential sector is just because of growth.

THE CHAIR: I have just got one question if there are not any other questions from the panel. Do you have any suggestions on how the ACT could achieve the zero net emissions policy as far as what measures they might be able to put in place and which ones might be most cost effective?

Mr Anderson: The easiest, most cost effective, is the none-a-watt—that is, the energy not used, all those things that Professor Blakers talked about. There are legislative instruments that can bring that about and there are other incentives.

I would really like you to ask him about rebates. I think we have been really careful with rebates. They often put the price up. Small rebates can be good because they incentivise individuals. I have been working alongside the home energy advice team. I have been involved in that. I have seen the number of things that people will do simply to get a $500 rebate; it is phenomenal. That does not attract everyone, it is true. So there could be small amounts of incentives. If the rebate, say, for photovoltaics takes off, I think there are studies that show that that can increase the price.

Excuse me, Mr Seselja, you asked would it be possible to get whole-of-government. Yes, it is possible. And I do not think I answered that directly.

MR SESELJA: Not directly. Is that something that in your studies you would be able to get access to or are you able to point us to how we would be able to obtain that data, given that it might be useful for us as a committee?

Mr Anderson: Yes, it is possible. I would like to respond on notice, but yes it is possible to get that top-level energy use and quickly do top-level calculations.

MR SESELJA: That would be very useful, thank you.

THE CHAIR: Thank you very much, Mr Anderson, for appearing this afternoon. There will be a draft transcript come out. If you do notice any inaccuracies, could you please let our secretary know. But thank you once again for giving evidence.

Mr Anderson: I am only too happy. Thank you.

Meeting adjourned from 3.06 to 3.27 pm.

BAXTER, MR PAUL, Senior Commissioner, Independent Competition and Regulatory Commission

THE CHAIR: Welcome back to the hearing this afternoon into a legislated greenhouse gas reduction target for the ACT, being held by the climate change committee. I welcome Mr Paul Baxter, Senior Commissioner for the ICRC. To start with, have you had an opportunity to read the privilege statement and, if you have had an opportunity to read the privilege statement, could you indicate whether you understood the content of the statement? Would you like to start with an opening statement?

Mr Baxter: Thank you. I have read the privilege statement and I concur with that. The commission thanks you for the opportunity to put in a submission. We were conscious that the inquiry was to be undertaken and when the commission had a look at the matter we felt that it was probably appropriate that we made some observations, primarily focusing upon, as it were, some principles that might be applied in the process of coming to some conclusions in relation to a number of matters that are in the terms of reference.

It is not appropriate that we enter into debate or discussion on what appropriate targets should be. That is a matter for government and for others; that is their responsibility. We saw our responsibility being more that we address the issue of some of the matters to do with the efficiency and effectiveness of some of the options that might be around to achieve the targets and how one might sensibly put into place policies and programs to address that process that would need to occur whatever the targets might be.

We have taken that view primarily given that our legislative remit, particularly section 20 of the Independent Competition and Regulatory Commission Act, requires us to have regard to a number of matters to do with efficiency and effectiveness of the supply of utility services and, in this particular instance, electricity and energy services and to address issues dealing with social impacts and the least-cost method of providing those services and the like. It is within that area that we have gone back and had a look at what we think are a number of key points that need to probably be made to assist, as it were, the committee in its consideration of what recommendations you may wish to make and where you wish to go.

The three points that we have taken from that—and they are set out in our submission and summarised on the last page—were essentially these: the first point was the need to have some degree of complementarity between the programs that might be implemented in the ACT and those that might be implemented nationally or indeed in the neighbouring or even further away jurisdictions. That is a principle that is not ours. We have not dreamed this up. In actual fact, it is a principle that COAG has signed off on. Indeed, the ACT government late last year signed off on these principles themselves.

We are not really saying anything new here but we just want to highlight the point and draw it to your attention because it is a very important principle that goes to the fundamental difficulty that governments face in the jurisdictions—and, indeed,

nationally, but particularly in the state and territory jurisdictions—when they are trying to address what they see as being shortcomings maybe of national legislation. Again, it is not for me to comment upon whether they are shortcomings or not, where they might be or how they might be, but one recognises that this is not something that you need just for environmental matters—the production of carbon gases and the like—but it is also an issue that affects a whole range of government programs, policies and actions. That is appreciated and recognised.

But COAG sensibly, I believe, came to some conclusions and set down a number of principles which we have outlined in the submission, which the ACT government has signed on to and which we would argue and suggest to you that you might like to at least acknowledge on the way through in terms of the work that you are doing, because they go to some fundamental issues that then spill over into the efficiency, effectiveness and overall costs that people are going to be incurring as part of addressing this carbon pollution problem. Let me say, as an adjunct there, that the commission is not taking a view that says that people should be expected to pay more for energy to recognise the costs that are associated without the environmental costs.

The commission, in actual fact, as you are aware, has made the point on a number of occasions, in particular, publicly through the water extraction charge review that we did for government several years ago now, that there needs to be built into the cost of our use of resources—in that case, water, but, in this case, energy—the wider environmental costs that are not readily measured or valued but need to be recognised. Indeed our legislation requires us to do that. But at the same time there is a fundamental point that needs to be considered. We recognise there are going to be extra costs that are going to be incurred but we are trying to make sure that they are the most efficient level of costs possible.

The second point is that in the process of coming to decisions as to the range of programs or what programs from the vast suite of programs that I am sure you have had suggested to you by all sorts of groups of people, because we see a lot of these coming to us as well, what we suggest to you is that there is a need to have a fundamental structure of a process whereby these are evaluated and compared so that you come to an appropriate, rational decision against what is the most effective and efficient way of delivering the outcome in terms of the current reduction that you are seeking. And that is a very important point.

If I can elaborate upon that just for a moment: I was in Victoria yesterday, in Melbourne yesterday, with the Department of Sustainability and Environment, dealing with certain matters relating to their water supply from the northern part of the state, the Murray-Goulburn area. And what is happening there is that they are running a big pipeline down to Melbourne because they are down to 26 per cent available water in their dams and they have got some big problems. And there is a good deal of public concern about moving water from one part of the state down to Melbourne. And this is a quite appropriate matter which is raised in wide community issues.

What the Victorian government has done is put into place some sense of very clear principles and arrangements which allow a proper evaluation of the various options in terms of how to recover some of the losses of water from those systems which then can be used down into Melbourne or better used in terms of flushing the river itself.

I have set that out in a very detailed publication which then becomes the guideline upon which decisions are taken as to what is done. So rather than just picking winners and jumping into here and jumping into there with policies that will not ultimately clash, they have got processes in place—they have gone to a lot of trouble to get these in place—which allow a proper evaluation of all the options.

I am not saying the arrangement is perfect, but the principle is correct. It allows, then, complete fairness amongst all parties who have got different views as to what should or should not be done but also ensures that the community, because they are ultimately the people who pay, get the best result for what they have to pay in terms of getting these efficiencies and getting better use of the water concerned.

The same principle will apply, I would suggest, in the ACT. And that is our second point. We have suggested a simple, little model. It will not turn into a publication like they have got in Victoria but the point is we need some form of model and we need that to be applied so that all the costs and benefits are fully understood and are transparent. People can see what is going on, decisions are made and then we can, as it were, take the community with us, at the same time recognising we are getting the best result from the work that is being done.

The third point we would make—and this also links to something I was doing yesterday in Victoria—is that there needs to be a process of monitoring and publicly reporting on the effectiveness and operation of those particular programs. We currently do it for the GGAS scheme, the gas reduction targets that are already in place, on our electricity charges for the ACT government. We do that. We report back to the Assembly on that particular matter so that people can see how that is progressing year after year. That allows people to know whether or not the scheme is still working, still delivering the benefits, I suppose, of delivery, or whether or not there need to be changes made. We are doing it also at the moment in conjunction with the Department of the Environment, Climate Change, Energy and Water in relation to the feed-in tariff arrangements, in terms of monitoring how that is performing. These are important roles.

Why I relate it back to Victoria and what I was doing yesterday is that I was actually involved in selecting someone who is going to be auditing the water savings and all these expenditures down in Victoria. It is a major exercise and, politically, the government down there recognises that to sell it to the community they need to have this independent review and evaluation of how the program is going. We would suggest to you that needs to occur here.

There are three points that we want to make. One is: recognise the complementarity issue between all the different programs. There are some principles in place. The government in the ACT signed off on them. It would be nice if the committee felt that it can also endorse those as part of its decisions and recommendations and to have in place the appropriate process of actually evaluating the various programs that are being offered up as solutions to achieve the targets, whatever they are. There are three appropriate, independent monitoring processes which allow government, with the advice of the Assembly and others, to not only monitor but modify, as needs be in the future, programs as circumstances change. Thank you.

THE CHAIR: Thank you. Just on that last point of monitoring and reporting, you said that the ICRC could play a role in assessing performance.

Mr Baxter: That is correct, the point being that you need an independent body or an independent auditor. As I said, in Victoria yesterday I was literally choosing who the independent auditor would be. Without going into detail, suffice it to say that anyone that had any involvement in the particular matters that we were discussing down there could not be regarded as being independent. The community wanted to see someone independent they could rely upon. And that is why the commission was originally established, to have that role.

THE CHAIR: Thank you. We have had some information this afternoon about the ACT greenhouse gas inventory. What role does the ICRC have in providing data for that inventory?

Mr Baxter: We do not have any major role at all, none at all. The only role that we have had along the way here has been some advice we have had backwards and forwards with Dr Maxine Cooper in relation to some of the work that she has been doing but that has really been drawing upon information in terms of total volumes of electricity consumed and making sure we sort out those sorts of numbers. But we have no role in the inventory.

THE CHAIR: But you are aware of the inventory?

Mr Baxter: Aware of it but not familiar with it.

THE CHAIR: Thank you. I want to go to the complementarity measures. You refer obviously to the COAG measures and in your submission you cite the Wilkins report and the recommendation that states that governments should only retain or adopt policies to reduce carbon emissions if it can be demonstrated they address some inefficiency in the way the ETS is working or could address areas of defined market failure. On that, can you outline, then, what measures you see as addressing market failure?

Mr Baxter: The issues of market failure really are where you have an instance where you see some public good—for example, the issue of a target that you might recommend or the government has already put forward to you; you have got an ambitious target, in actual fact, in achieving that; to get, in that particular instance, to net zero carbon emissions there might be a range of programs that are being put forward; those programs having been assessed in terms of their ability to achieve the actual carbon reduction levels that one is seeking—one might come to a conclusion that programs X, Y and Z are the ways to go but, for a variety of reasons, program X will not occur without some sort of government funding. In other words, the market itself will not drive that.

Leave aside what might happen federally with carbon reduction programs and the like and moves to use market and other mechanisms there, if one were to come to a conclusion that those were the three or so programs and if one of them was not able to be a program that could readily occur without some form of government intervention—in other words, the market would not drive it—there would be the

opportunity to step in there and take that particular view. But, first of all, one would need, desire, to come to a view that, if that was the best way of achieving the outcome, then what would be the cost that governments need to incur and then do the balance, as I say, in terms of the various cost-benefit evaluations proposed; to do the balance against the benefits that you thought you were going to get out of them versus what the government would need to do.

But market value really is talking of the situation, the government having basically decided that this is the best way to go, of whether the market ultimately would drive it or whether or not the government needs to step in and take some other action, be it by direct funding or indeed by some other mechanism, as indeed we have endeavoured to use, for example, with the feed-in tariff arrangement in the ACT.

THE CHAIR: On that cost-benefit analysis, the committee sought more information from the government on any analysis undertaken to inform its current policies and programs under weathering the change. What sorts of principles and guidelines do you suggest need to be in place?

Mr Baxter: I think we endeavour to set out in the submission a very simple little model. It was deliberately simple because, as I say, the Victorians currently have a sizeable publication which goes to exactly this point. But the simple model endeavours to set out the issues of identifying what the benefits are that one is endeavouring to achieve. I am trying to find my own copy of this.

THE CHAIR: It is on page 8.

Mr Baxter: Yes, thank you. As to the benefits that you are trying to achieve, the cost of actually achieving those is measured against other possible programs and what benefits might come from that. You might have what we have called there an efficiency factor.

The important part about any evaluation of this nature—and this is the fundamental point—is that there are costs that are not readily quantifiable, or not readily quantified. Economists and policy advisers have been working with this issue now for many years and have devised at various times ways in which one can foreshadow price or apply some form of value to that, as indeed we did with the water abstraction charge when we advised government on that several years ago. We used a proxy for the environmental cost to build into the water abstraction charge calculation.

So there are ways of doing that to come up with sensible outcomes. Where debate emerges obviously is in what number you might have chosen where the number does not actually exist—in other words, what proxy have you used? Or if you are doing something over a period of time, what discount rate you might use, because some of the benefits might be occurring a long way in the future or in the short term and that affects the net result. We have referred to some work being done by the Productivity Commission on that which goes to that point.

The issue here is that these are not new ways of addressing these policy trade-offs. These are techniques that have been developed and honed and worked on over many, many years. In fact, it should be almost a mandatory requirement that that sort of

consideration be given to a range of policy options that might be put on the table for consideration to address an overall objective—in this case an emissions target. As I have already said, you will be presented, as indeed we have been presented, with a vast array of possible measures, but you have to keep saying, "Well, is that going to be delivering the best possible result, or are we forcing people to pay a lot more and not get the outcome that we desire for them?"

THE CHAIR: We have heard a bit about smart metering this afternoon. Do you know of any ACT initiatives or the cost-benefit of that?

Mr Baxter: There have been moves to put in and trial smart metering in the ACT. They have also trialled it in Queanbeyan. Country Energy has done that. The commission took a great deal of interest in that matter a few years back when we were reviewing metering arrangements—who should own meters and a number of other things to do with the metering codes.

It certainly is an attractive option in one sense, in the sense that it allows prices to reflect time of day, because in reality the price of electricity reflects time of day as to when it is being generated. Of course, it makes a lot of sense. It is used widely by larger commercial users who are able to organise their affairs around time of day to get best value for money from their electricity use. Victoria is running out smart metering at a great pace at the moment. There are all sorts of good, positive things.

The not-so-positive comments that come back—and I am not pretending to say which is one or the other—are: "Do people really pay any attention to that?" When you go home and the house is hot do you turn the air conditioning on or do you sit around and wait until 10 o'clock at night, when the electricity is cheaper, and then turn the air conditioner on? There are all of those sorts of issues. This was, to some extent, the experience of Country Energy in New South Wales when they did the trials in Jerrabomberra. They found that there was some response by people to what the smart meters were telling them as to what the costs were, and the messages that would come through saying, "Prices are going to jump by 20 per cent for the next half an hour because of a price spike."

But the reality was that there was a lot of cost to put all these things in and, from a household perspective, not a lot of response. Where you get the response is more in terms of larger commercial and industrial use, where there is the opportunity to say, "We're going to close this down because we are into a major price spike." But that may be the way in which you have contracted your electricity supply. I think it is an open question. There will be arguments both ways.

THE CHAIR: Mr Seselja? Then I will go to my question.

MR SESELJA: On this cost-benefit evaluation methodology, have you sought to apply that to the existing schemes, particularly the solar feed-in? How would the solar feed-in work when we apply this methodology to it?

Mr Baxter: We have not actually applied it in that way. We look at various options being put forward at various times on issues to do with water and electricity and other matters, but in terms of doing a comprehensive review and then running it against

other programs, I would not say that the commissioner has done that and that is something we can readily give to you, or anything of that nature. To some extent, however, the steps that can be taken—and that is why we set it out in a simple form here, as distinct from the more detailed publication that you get from the Victorians at the moment—are ones that can be readily applied.

Certainly we have looked from time to time at some of the issues here. I saw some numbers the other day which were just suggested numbers. They do not have any veracity from anyone. Somebody was just building some numbers around a large non-carbon-producing energy generation capacity in the ACT which was going to benefit from the feed-in tariff arrangement that we currently have. The costs associated with that for the amount of renewable electricity that it produced were something in the order of six times the cost of buying green energy from the electricity supplier and getting the same environmentally desirable result.

I am not suggesting that those numbers were right or wrong, and please do not quote me on the six because it could be five, it could be seven, it could be three, but it certainly is a lot, I would suggest. It is a lot higher than one for one. In other words, there was a lot of money to be spent by consumers under this little model that someone had put together independent of us and the supposed benefit in terms of renewable energy versus going out and buying green electricity from the electricity supplier.

That seems like a very simple little test to look at, particularly if one wants to argue that there are simple solutions to the problem that we have. The solutions are not always as simple as we sometimes think they are and they do not get resolved just by grabbing hold of whatever the latest fad happens to be. They need to be tested, but at the same time we are not arguing against wanting to see people buying and using environmentally friendly electricity. Clearly, that is what we want to achieve; that is the objective.

MR SESELJA: Taking into account all those factors—that is, you have not done the detailed methodology on the feed-in tariff and the veracity of the three times or the six times, or whatever it might be—what is your general view on the effectiveness and the efficiency of the feed-in tariff as it stands?

Mr Baxter: I cannot really comment upon that. At this stage, it is early days in the sense that the take-up rate is still building. The transitioning of people who are already producing that electricity has been the main area of activity, I think, over the last three months, from what we have seen to date.

The point that we make in the submission and the point that I make again now is that it is not just to do with a feed-in tariff, it is to do with any decision that we might take as a government. At a time where we have got a number of things changing we have to recognise that maybe there are some programs that have long tails and have costs which we keep incurring in the long term versus things which have shorter tails. I used an example, and it was only an example. Wilkins was the one who picked it up and I just quoted him. He was highlighting the carbon reduction scheme of feed-in tariff and making that exact point—by the way, that is what led to the COAG outcome—versus a program like the GGAS program which we have had in the ACT

now for a number of years, which we have done in conjunction with New South Wales.

New South Wales is in the process now of saying, "We always said it would come to an end when the new carbon reduction program came into effect." It will come to an end. We will no doubt as a government look at it and make a decision—or the relevant authorities will—as to how it goes forward. But it does not have a long tail; it does not have a long ongoing cost, like New South Wales has. They have modified it and come up with a new arrangement which continues some of the valuable aspects of it, anticipating the carbon pollution reduction scheme from the feds. No doubt we in the ACT will look at something similar in time to come. So it is really what long-term tails some of these policies have. That is the thing that needs to be looked at.

MR SESELJA: Just to quickly finish off on this: do you accept the numbers? I do not have these or the ICRC numbers. I am sure Actew has put, certainly to me if not to the committee, that $500 a tonne is the cost of the feed-in tariff in terms of the cost of reducing emissions. Is that a number that you are familiar with or that you accept?

Mr Baxter: I am not familiar with that, no.

MS PORTER: I think that you had a question on greenhouse or on the feed-in tariff, did you?

MR RATTENBURY: I have got a few but you go, Mary.

MS PORTER: We will go back to that. Mine relates to page 5 where you talk about the different inconsistencies across state and territory borders as a concern. You say that users in the ACT may be required to pay prices which incorporate inefficiencies and are counter to national policy because we are putting an initial cost on people in the ACT. Therefore you are concerned that people may move or choose not to live here because the cost of their utilities is more expensive here. They might move or decide to settle in Queanbeyan where those costs may not be the same in the newer areas. Do you want to elaborate on that? Is this a big concern?

Mr Baxter: I think the point and the principle here is that in any area of policy making one needs to have regard to what impact one is having upon the overall cost structure of the jurisdiction in which you are operating. Does the benefit that you are getting from it equate to the cost that you are creating, particularly when you happen to be in a location such as we are in the ACT where we are close to another jurisdiction? You will recall what happened for a number of years on the border of Queensland. Because the Queensland government had opted not to have taxes on fuel—there was a rebate of fuel tax and so forth which was collected federally—certain things were done in New South Wales so that the retailers of fuel in New South Wales were not disadvantaged by the fact that people could just pop across the border, as it was just down the road, and buy their fuel cheaper over the border. Why would they buy fuel in Tweed Heads? That is the point of principle we are making here.

One should not make too much of it by saying, "We're going to pack up and leave the ACT tomorrow." I am not trying to say that. What I am saying is that we are making

decisions today arising out of this committee and the government's consideration and so forth. Then the government will give an aspirational—I do not know whether it is aspirational but it is certainly a target which is going to affect us for years to come. In the process that is ultimately going to affect how people think about what to do and what not to do in the ACT.

When you have got something across the border which may finish up being more attractive it can alter people's decisions. The bigger worry I have in that regard, and again this is not short term—we are not about to see people close their shops and move tomorrow—concerns light industrial and other commercial activities where people might say that they are creating a situation in the ACT, through either this or other laws, where it becomes very expensive to do business. Why be there if I can run the stuff down from Sydney and do it in Sydney or across the border?

The worry that I would have, and the concern that arises out of our terms of reference and our legislation, is that when you are dealing with electricity infrastructure such as we have in the ACT—and a very efficient infrastructure overall, I might say, but do not tell Actew I said that: ActewAGL say that all the time, but by comparison to other places it is not too bad at all—what happens is you cannot just suddenly close that down because the territory is not growing as much any more and people are opting to be elsewhere or industry has moved out and no longer requires that heavy switching gear and so forth to service activities at Hume, Mitchell, Fyshwick or wherever they happen to be because they have decided to do things from elsewhere. Those costs are all built into the total cost that people ultimately pay. If the industry is not there then more of it gets shared amongst the consumers.

What I am saying is that you have got to think in terms of the long term. These are long-term issues that we are dealing with. In terms of the long term, if we start to make mistakes at this stage they can compound and ultimately you start to send those sorts of signals. That is what we are trying to say.

MS PORTER: Quite a number of people and organisations who have appeared before us asked us to be a leader in this area. They say this is a small jurisdiction and, therefore, we can afford to be a leader. Others have made similar comments to you in that we should perhaps wait and there should be more consistency—if I am hearing it right, from what you are saying. Do you have a comment about the fact that we are being asked to become a leader in this area rather than sitting back and waiting for consistency across the states and territories?

Mr Baxter: I am not arguing against being a leader at all. That is why I said I have no comment to make upon the government's targets. If the government decides it wants to go for zero net emissions then by all means let us do it. It would make us a leader by far. That means we need to be a leader in terms of how we actually achieve that as well. What I am saying is that we need to carefully think about how we actually achieve that so that we recognise that as others catch up or as they run around and do their things we are not completely out of kilter.

We do not need another set of non-connecting railway lines, as we have had in the past. Even if we are different, as we have been with GGAS—New South Wales and the ACT are different from Victoria—we all stepped in and did those things because

the commonwealth never did anything. We correctly went ahead and did something. We were leaders. If the commonwealth eventually does do something—and no doubt we will but it might take a little bit longer than we would all like and not quite be in the form or the way we would all like—we need to be in a position where we can then readily transition so that we are not double costing ourselves the cost of doing it.

I think we need to be leaders. I have always been proud to be part of the process of establishing the water abstraction charge in the ACT. I have spoken strongly in favour of that with my fellow regulators and other government agencies around Australia for years because I think it was the right thing to do. It set a price that incorporated the cost of some of these things that are not normally collected as part of the pricing of water. We need to be a leader in capturing the cost of the environmental and carbon problems that we create. But how do we deal with it in the best possible way?

THE CHAIR: Mr Rattenbury?

MR RATTENBURY: Thank you. I just want to come back to your cost-benefit model on page 8 of your submission. You use as an example insulation in public housing units. It is a useful way to step through. It is just the very last point that I wanted to see if you could explain to us—the potential increase in per kilowatt subsidy due to the increase in the price of electricity. I am unclear how that is relevant to that example.

Mr Baxter: Thank you for raising that. I was reading back over it and it is very shorthand. What we are saying is this: at the moment you have got the CSO arrangements attached. They are not necessarily attached to the price of electricity per se, but the minister in this place, sitting here I think, made the point to an estimates committee only a couple of months ago that the government is seriously looking at picking up one of the recommendations the commission had made. That is, they would link the CSO payments that are paid to families regarding movements in the price of electricity. The point here—as I said, you are quite correct; it is a bit cryptic—is that if you start to see the price of electricity go up, as you would do, linking in some of the other things that might happen, you might see an increase in that kilowatt subsidy reflecting that. It is a bit too cryptic.

MR RATTENBURY: In the model generally, if we took an application—for example, you have used insulation in public housing units—is there any way that model measures the other benefits to the ACT community on job creation in the insulation industry and all the other flow-through benefits of the generation of that particular—

Mr Baxter: No. All those matters I would normally include in any evaluation of this. I have spent the last 30 years as a consultant/adviser to government in various government positions doing exactly these types of things, doing cost-effective evaluation of government programs and the like, both in advancement and after they have grown and taken effect. As part of that, you do look at the spin-off and other benefits or costs. It works both ways.

MR RATTENBURY: I am not clear where that is in this model.

Mr Baxter: We have talked in terms of estimated GHG savings or estimated cost to achieve the GHG savings. I would build it into that, into those sorts of areas. Yes, you would build it in.

MR RATTENBURY: That measures things like increased tax revenue to the ACT government from payroll tax generated by extra jobs et cetera.

Mr Baxter: Yes, but this gets down to our discussion about when is it a benefit and when is it a cost. You are saying it is a benefit if people are employed in these jobs but, if they are employed in those jobs because they have moved from other jobs in the ACT to there, there might be no benefit from that at all. They will just transfer from one place to another. I am not denying that there might be new jobs created and new people coming in to fill in. That in itself might have some associated costs elsewhere. So there are a number of things that you would follow through as part of that.

The process here is that, clearly, in any of these things, there are a range of potential benefits and costs associated with what one might do. Whether those potential benefits or costs are real or not is another matter, another discussion. That is a discussion for another place, I would suggest. But the point is that you would examine each of them and test them. That is the proper process.

If there is something that is there, as we did with the water abstraction charge, where you cannot readily value some other proxy or some other measure of it, you would build that into some of the equation, the calculation. You do not just say, "No, we do not have regard to that." But you do test it to see whether it actually is a benefit or a cost or whether one negates the other because, effectively, to use your employment example, people are being taken from that existing industry or activity in the ACT and are transferring to another place without any benefit being generated as a result.

MR RATTENBURY: I want to ask some questions about electricity prices. There was a discussion that Ms Porter raised a couple of minutes ago. Are you aware of the figures for the average household electricity bill in the ACT and Queanbeyan?

Mr Baxter: I am aware of them, yes.

MR RATTENBURY: Can you tell the committee what they are?

Mr Baxter: I was afraid you were going to ask me that.

MR RATTENBURY: A ballpark would be fine but the relativity is—

Mr Baxter: For the average cost of a household's electricity bill in the ACT, I refer you—and the secretary might follow this up for you—to the transitional franchise tariff report which we released in June. As I recall, the number is in the order of $1,450 per year average household; that is 8,500 kilowatt hours consumption. There is a similar level of consumption in Queanbeyan. It is up around $2,100, $2,200. There is a big difference in the cost.

What is the reason for the difference? The reason for the difference is the cost of

distribution in New South Wales. Because Country Energy and the other distributors in New South Wales are covering a much wider dispersed area with long lines and associated maintenance and everything else—the costs that go with that—their distribution costs are much higher than the ACT, which is much more compact and gets some greater benefits from that position.

MR RATTENBURY: That might suggest we are a little time off people fleeing to Queanbeyan for cheaper electricity prices.

Mr Baxter: That is what I am saying. Let me put this in context. What might happen in the ACT can very quickly overtake those sorts of matters. If I go back and use that example I quoted before of a model that was put up to me the other day and that I was looking at, this was suggesting some pretty large environmental friendly electricity generation being charged by the feed-in tariff much, much larger than we are likely to have at the moment under the current arrangements. And it was starting to add $100-plus per annum very quickly to household consumption and quite significant amounts to commercial consumption as well, for very little overall benefit.

But the problem that I would have is, without actually adding the quite significantly larger cost increases to costs for commercial users and for industrial users—and what I worry about, and I need to be concerned about—the extent that these people might decide to say, "We will not do our panel beating or our whatever business in the ACT, we will pop over and do it in Queanbeyan." The remaining fixed costs then start getting apportioned out to households. And that is the worry. That can very quickly start to gobble up that advantage that we currently have.

I am not suggesting that it is going to be next week, next year, five years or 10 years. I do not know. It will come up with different models depending upon what has been put out. But the point was that this model that I was looking at was attached to an early stage proposal that someone was putting up as to what one might do. And we only need a couple of those sorts of things and very quickly you can run into problems. What I am saying is that, when you come to look at those, you need to assess them, measure them, realise the implication and take that into account when you are making a decision on whether or not to adopt that program.

MR RATTENBURY: In this year's electricity price determination, one of the interesting components of the TFT retail price of electricity is energy losses. You have that at 7.9 per cent. Can you explain what that means?

Mr Baxter: Energy loss is a loss through the transmission—the network losses—through electricity being transmitted over wires from the generation plants and also in terms of wires in the ACT, as they move through the atmosphere. That is what is happening.

MR RATTENBURY: So that is getting it from the La Trobe and Hunter valleys, essentially, to the ACT, on the whole?

Mr Baxter: It is getting it from wherever we have it coming in, so there are standard rates that apply for the ACT's transmission supply, and then there is a transmission loss calculation that applies to apparent losses in the ACT in terms of distribution in

the ACT. The larger part—I might have to be corrected on this—may well have applied to some of the distribution losses in the ACT because we get some benefits from where we get our electricity from.

MR RATTENBURY: Does that mean, in essence, if I can put it very basically, that if Actew buys 100 units of electricity, it is able to sell 92 units?

Mr Baxter: That would be the way, yes.

MR RATTENBURY: So that 7.9 per cent in energy loss that you have built into the TFT retail price model, what does that equate to in dollar terms?

Mr Baxter: You have got the numbers in front of you; I am not going to remember those off the top of my head. But if you take—

MR RATTENBURY: Sorry, I don't understand what it means in terms of dollars.

Mr Baxter: I am saying that you have got the numbers in front of you in terms of what the assumed electricity generation price was. At the top of the page you will find a number; it is about $60?

MR RATTENBURY: $60, yes.

Mr Baxter: Okay—seven per cent of $60.

MR RATTENBURY: I see.

Mr Baxter: That is the—

MR RATTENBURY: I was not trying to trip you up; I actually did not understand the number.

Mr Baxter: No, I just did not have the numbers. If I had the numbers, I would do the calculation. I could not remember. But it is $60; one could finesse that a little bit more in terms of sorting out the bits and pieces, but for the sake of the discussion, we can work on seven per cent of $60. As you say, for the units that are produced, we effectively get 92 per cent of them here at this particular point. But not all of it is related to the transmission activity. Less than half, as I recall—but I will happily correct that and feed that back to you—is from the transmission. The rest of it is distribution within the ACT. If I could take that a little bit further, without prejudging where your questioning might have been coming from, if one were to have a generation capacity located somewhere in the ACT, you would not necessarily say that is seven per cent. You would say part of it—perhaps half.

MR RATTENBURY: Thanks.

THE CHAIR: Mr Seselja?

MR SESELJA: Thanks, chair. On page 7 of your submission you make the comment that there would be advantages for policy decision making if the inquiry made

preliminary comments on economic and social impacts of its recommendations. I think that is a fairly sensible statement, but I am interested in whether the ICRC is in a position to assist with some of these in more specific terms. We have had a lot of witnesses before this inquiry. The vast majority are calling for a stronger target, I think it is fair to say. For instance, a gentleman called Mr Matthew Wright talked about what would be necessary to achieve zero net emissions in terms of renewable energy, how many wind turbines, and that sort of thing. Does the commission have the capacity to perform that function to provide more detailed advice on some of these potential costs?

Mr Baxter: The commission does have that capacity. The commission does do that, at the request of departments. We are currently providing some assistance to DECCEW in relation to some matters that they are examining. We have done that in the past, and we are more than readily available to do exactly that. I have probably made this point in hearings before, but in a small jurisdiction like the ACT there is a great deal of value to be had from using resources that you have got around the place to address these sorts of matters. Certainly, we have been asked at various times to look at water matters, electricity-related matters and the like.

MR SESELJA: You say you are able to do it for departments; does that also go to committees? Are we in a position to seek some of that information to assist us with our recommendations?

Mr Baxter: Whoever I do it for, I have to seek the minister's permission. I am required under the act to do that. Again, there is no reason why not—the Assembly itself has the power to direct things to us and the like. So there is no reason why we could not be asked to do certain things for a committee, subject to the minister agreeing.

MR SESELJA: Thank you for that. That is something that we will look at pursuing, so there may be some further correspondence on that, depending on what the committee determines.

On another issue, you talked about a degree of confusion across ACT government portfolios as to how to address aspirations to minimise the carbon footprint. Now that we have got a coordinating department, and part of the rationale is to bring some of those things together, have you noticed an improvement as a result of that?

Mr Baxter: I think it is early days yet. That department, under some strong leadership, is now starting to get on top of a number of matters. In the past maybe we were a little concerned, not because of anything evil or anything of that nature, I hasten to add; I am not casting aspersions as to the good intentions of departments and agencies. But what we have got in place now is some agency that can coordinate this, whereas in the past people have been heading off down various tracks, all with the best of intentions, but there has been no ability to focus on and address the sort of issues that we are raising here, and that can be a bit of a danger.

THE CHAIR: Do you have a view on whether that should be DECCEW, for instance, or whether it should be a more central agency such as Treasury or Chief Minister's?

Mr Baxter: I would not have a view on that, other than that I would assume that DECCEW has got that responsibility to provide that sort of coordination. That is what I would assume, but I do not really have a view on that. There is a need to have that. If you have got different people all trying to do the same thing, and particularly in a small jurisdiction, you finish up with some confusion, which is what I am trying to say. In a small jurisdiction it makes a lot more sense to get some coordination. It does not mean that agencies can't have different views, as indeed they will. It does not mean that there is not an opportunity to explore those and bring it to some balanced conclusion.

THE CHAIR: Are there any other questions?

MR RATTENBURY: Professor Andrew Blakers was in earlier and, in his submission, on the feed-in tariff, he noted that the cross-subsidy entailed in air conditioning far exceeds that pertaining to rooftop photovoltaic systems. Do you want to comment on that observation?

Mr Baxter: I will not make any comment on that. He is just making an observation in relation to people's use of certain sort of technologies. If I happen to use a lot of electricity to run an electric train-set or something like that—it is a silly example but it highlights an interest that one might have—does that mean that I am being cross-subsidised by everyone in the ACT and is that necessarily a good or a bad thing? That is not the debate here. The issue is whether or not the policies, whatever they are, are the most efficient and effective way of achieving the goal that we are setting ourselves. That is the fundamental point.

THE CHAIR: Thank you very much, Mr Baxter, for appearing this afternoon. A draft transcript will be coming out. If you notice any inaccuracies, please let our secretary know. That concludes the hearing this afternoon. Thank you.

The committee adjourned at 4.21 pm.