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, 3 JUNE 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 2.03 pm.

CORCORAN, MS MARGARET, Policy Convenor, Climate Action Canberra
HUGHES, MR LEIGH, Co-convenor, Climate Action Canberra
WOOD, DR PETER JOHN, Private capacity

THE CHAIR: Good afternoon, and welcome to the Standing Committee on Climate Change, Environment and Water inquiry into ACT greenhouse gas reduction targets. This afternoon we will hear from some witnesses who will appear before the committee. Our first witnesses are from Climate Action Canberra—Mr Leigh Hughes and Ms Margaret Corcoran—and Dr Peter Wood is here as a private individual, I believe.

Have you had a chance to read the privilege card that has been presented to you? When you first speak, could you indicate that you understand what is written on the privilege card. That would be great. Do you want to start by making a statement?

Mr Hughes: Thank you for the opportunity to speak here today. We are from Climate Action Canberra, and Dr Peter Wood is our technical adviser. I am the co-convenor, and I have read and understood the privilege statement.

The way we are running things today is that Peter will make brief opening comments on the target and about what the science is telling us. After that, I will give a briefing on ways that we can get there—ways to make it a bit more real. Margaret Corcoran, who is our policy convenor, will talk about possible mechanisms and financial methods that we could use to achieve these targets. Without further ado, I will hand over to Peter.

Dr Wood: My background is as a mathematician but I also do research on climate policy at the ANU. I am appearing here today in a personal capacity. I want to talk about emissions reduction targets for Australia and the Australian Capital Territory and the sort of considerations that you might want to consider when deciding on setting a target.

It is fairly widely considered by the scientific community that more than two degrees of warming is a dangerous level of climate change. There was a recent scientific and policy conference at Copenhagen which re-affirmed that, but some scientists and others, such as small Pacific islands, would contend that even less than two degrees of warming would be considered dangerous. What I want to talk about today is how different targets would relate to probabilities of exceeding two degrees of warming. There was a recent paper in *Nature* journal from about a month ago that stated that a good indicator of the likelihood of exceeding two degrees of warming is the amount of cumulative emissions between the year 2000 and the year 2050.

This is a diagram from that paper which looks at cumulative carbon dioxide emissions, but the paper states that both cumulative carbon dioxide emissions and cumulative greenhouse gas emissions should be expressed in carbon dioxide equivalent—both good predictors of the likelihood of exceeding two degrees. So with less than, say, 1,000 gigatonnes of carbon dioxide, you may be looking at between a five and 30 per cent chance of exceeding two degrees. If you have cumulative emissions of at

least 2,500 gigatonnes of carbon dioxide then you are looking at almost a 100 per cent chance of exceeding two degrees, and also quite a high likelihood of exceeding three degrees, four degrees and so on.

What does this imply for Australia, because targets for Australia will be part of a global emissions budget? The question is: what would be accepted by the international community as an equitable contribution from Australia as part of a global effort to reduce greenhouse gas emissions? One approach to this is known as contraction and convergence, which is proposed by the Global Commons Institute, based in the UK. It is based on the idea that, eventually, in what is called the convergence year, the global per capita emissions allocations are equal in each country. So if a country wants to emit more than its allocation, it would have to buy allocations from another country. So the earlier the convergence state, the more emissions reductions that high per capita emitters like Australia will have to do in the near future. Australia is a very high per capita emitter. Its per capita emissions are about four times the global average and amongst the highest of the industrialised countries.

Today I will present some figures for 2020 targets based on different global emissions budgets and different convergence dates so that you can see how these two numbers—the global budget and the convergence date—relate to what a 2020 target for Australia would be. I have made some assumptions about emissions between 2005 and 2010 because we do not have accurate figures for these emissions yet, so I have been assuming about three per cent growth each year, except for a one-off three per cent drop due to the financial crisis. These are just ballpark estimates.

These are the results that I get. These different budgets are from the *Nature* paper that I referred to before, from Meinshausen and others. This *Nature* paper relates these budgets to probabilities of exceeding two degrees Centigrade. These figures also assume annual global emissions reductions that are constant, on a percentage basis, after 2010. You could say that it might take a little while to turn emissions around, which would mean less annual global emissions reductions in the first 10 years and less reductions by 2020. But if you do that, you have to take into account that that will mean deeper percentage reductions after 2020.

The question is: what is an acceptable level of risk of exceeding two degrees Centigrade of warming and what would be acceptable as an Australian effort in terms of the convergence date for Australia by other countries, including developing countries? I would contend that there are still problems with a 20 per cent risk of exceeding two degrees of warming. I think the damages involved suggest that you really do not want to exceed two degrees. You would not want to hop in a car if there was a 20 per cent chance of it crashing, and they are the sort of potentially catastrophic impacts that we may face from climate change.

We should bear in mind that a truly equitable global agreement would have all countries being allocated equal per capita emissions from now on, and would also take into account historical emissions. So all these convergence years are, to a certain extent, rewarding Australia for being a high per capita emitter now. Garnaut looked at a 2050 convergence year, but that was not purely a contraction and convergence framework, so you cannot really compare them. I think it would be hard for

developing countries to accept a convergence year later than about 2030. So these figures suggest that a 60 per cent reduction for Australia might be expected if you want a 20 per cent chance or less of exceeding two degrees.

The question now is: what does this mean for the ACT? The ACT's per capita emissions are lower than for Australia due to less heavy industry, but per capita residential energy use is significantly higher. Citizens of the ACT benefit from some of the industry in the rest of Australia because of the impact it has on exchange rates and so on. So these are some of the considerations. Then there is a question in that emissions in the ACT have a direct impact on the climate but they could also impact on decisions made by the Australian government, which would impact on the rest of the world. So if the ACT makes significant emission reductions and shows that it can do it at low cost then that sends a signal to the Australian government. Finally, because there is likely to be carbon pricing at some time in the future, and it is likely to continue to increase, if we reduce emissions more quickly now then we will face less of a carbon liability in the future. So these are some other considerations for the ACT. That is all I have to say at the moment.

Mr Hughes: Thank you, Peter. I guess I will start off with a bit of a case for Canberra to take action. People have probably seen the figures that Australia contributes 1.43 per cent of global emissions, which does not sound like much, but we do have a small population compared to the rest of the world. Of course, ACT emissions have often been called a per cent of a per cent. Australia does not have a big share of global emissions but the ACT has, depending on which accounting methods are used, between 0.2 and 1.1 per cent of Australia's emissions.

I guess it could be easy to say that what we do does not matter; so we should not have to adopt strong targets. I guess my argument is that this is a global problem that we all need to play a part in addressing. Despite Australia having just a small share—and Peter went into this—we are the highest per capita carbon emitting territory in the country and Australia is one of the highest per capita emitting countries in the world. Just from a justice point of view, it is beholden upon us to lead the way in this respect. Also, if we do not make these cuts here, we will be asking places which are poorer countries to be making those cuts instead. For justice reasons again, that should not be done.

In terms of the ACT emissions profile, where could we actually get these cuts from? The ACT government submission actually said that 72 per cent of our emissions come from stationary energy, that is, primarily electricity, and 22.8 per cent come from transport. Those are clearly our two biggest sources of emissions. Of the others, waste is 4.7 per cent but other emissions from agriculture and industrial processes are not that large. That is, of course, because we do not have much heavy industry in the ACT. We also do not have a big coalmine down the road or an aluminium smelter.

That said, these figures might be skewed a little in that we do actually have a lot of embodied carbon coming into the ACT. We do use a lot of steel; we use a lot of products for which, while the emissions might be accounted for elsewhere, our consumption still plays a big role. So I am going to argue that, while we should be definitely focusing on cutting our emissions from stationary energy and from transport, we also cannot ignore the other sectors, particularly agriculture, which is the next

largest emitter. I guess one way of thinking about it is this: when we are talking about the carbon footprint of the ACT, it extends far beyond the ACT's borders.

Peter has gone through some of the science about where we should be aiming towards and, I guess, a key target in that is 60 per cent reduction on 1990 emissions by 2020. Really we are at a point where global concentration of CO_2 is 387 parts per million and pre-industrial levels were 287 parts per million. The effect of that, of course, is that we are moving beyond natural climate variability and beyond mankind's safe zone—as Dr Robert Corell, who is a member of the Intergovernmental Panel on Climate Change, said, into new territory and we have no idea whether we can live in it.

We are already beyond what we are saying we should be going to, because, if we have a 60 per cent reduction by 2020 and 90 per cent by 2030 and aim on that trajectory, we ultimately have to be looking at actually drawing down carbon reafforestation and programs like that. I am going to briefly go to some tools that we can use to actually get there, some of which are in our submission. There are more in there than what I will be able to say here; but, hopefully, what I will say is a bit of a primer.

Stationary energy emissions primarily result from electricity from coal power stations, that is, black coal mainly but also brown coal, and petrol in gas-power stations to a lesser extent. In the ACT, over 3 million tonnes of energy-related greenhouse gases are emitted annually. I think I saw that 59 per cent of that was from non-residential sources, which has been where the big increases have been happening.

It is bad that emissions have been increasing in that area but it is also a sector where emissions can be reduced relatively rapidly compared to other sectors. People have talked about efficiency gains being a low-hanging fruit. They are low cost and in many cases are negative-cost ways of cutting emissions. If you cut your energy bill, you are cutting emissions but you are also cutting your energy bill.

There are a number of things which we should look to introduce very quickly, such as building design standards, electrical appliance standards—really bringing in that new ones to be sold are to be held to quite a stringent level—and making it so that new houses are built to certain standards, including solar hot water and heating; and, because we do have a lot more existing houses than new houses that we are building, we should be looking at retrofitting existing buildings, starting with government buildings and government housing.

There is a roll of other things that need to be done—behavioural change, changing light bulbs, all those things. We need to look at what is the best way to actually do that. There have been a number of schemes that have tried to do this and have fallen short; so finding which ones work and which ones do not will be quite important.

But those efficiency gains can cut off about 30 per cent, it has been estimated, from the stationary energy emissions. The other 70 per cent, however, is something which it is also possible to cut into. We are not doomed to have coal power stations forever. I guess the start on this would be having an upgrade of the electrical grid so that we can actually find out where are the best places to use electricity and get timed consumption and production a bit better than it is now. There is a lot of research now on smart electrical grids.

Other options which we should definitely look at include solar thermal, with storage. The idea that you cannot have base-load solar power has now been superseded. We now are able to store solar energy; so we can have solar power at night.

Another is wind turbines. In Lake George we have one of the better places in Australia for wind power. We already have wind turbines out there but we should look at expanding them. There is also photovoltaics on people's roofs. There is also waste methane generation, which is happening now out at the tip. There are other ways that we can produce this electricity.

As a quick example, I was talking to some of our colleagues in a group called Beyond Zero Emissions in Melbourne and they were looking at how we can replace Australia's electricity with renewable sources. They were saying that, if you have 11 e-solar mirror fields, which is a commercial technology now, with storage technology and you have over 700 hectares, that will produce 1.4 million gigawatt hours a year of electricity; and, if you combine that with 164 Vestas V90 wind turbines, that will provide the rest, which is another 1.4 gigawatt hours a year of electricity. And that would bring the cost down. How we pay for that is, I guess, the next thing. But these are just some options that we should be definitely looking into because we cannot continue where we are going now.

MR SESELJA: Sorry to cut you off there: in terms of that amount of solar power you were talking about, I did not quite catch what number of homes that is providing energy for.

Mr Hughes: That would be about half of the ACT, with wind turbines doing the rest.

I will try to go very quickly. I want to go on to the next thing, which is transport. Transport emissions are one of the strongest sources of emissions growth in Australia. In the ACT, they count for greater emissions than any other source, apart from stationary energy. These emissions are mainly from private car transport, though emissions from trucks, like commercial vehicles, and aviation are growing strongly. We now have an international airport; so there are emissions there which are not accounted for in the normal accounting schemes. But emissions are going to be coming out of those planes as well.

There are a number of ways in which we can deal with cutting the emissions as far as possible with transport. This is something that would be done more in, I guess, stages; that is, we would start off by making it so that new cars have certain fuel efficiency standards that they have to meet, that we look to phase out oil-based cars. I know that in California in the 1990s they started off saying that a certain proportion of cars had to be electric vehicles or hybrids. We could look to having some strong target there as well to really drive the replacement of the gas guzzlers we have got now with lower emission vehicles. There are other options, some of which are in our submission—having differential registration costs based on emissions so that lower emission cars would be cheaper to register.

But there are also a number of other very key things which do require government action—extending city planning, public transport and, in terms of the big

infrastructure projects as well, light rail. Of course the emission per passenger on rail is a lot lower than it is in a car and, if you then consider that the electricity for the trams or light rail can also be done from renewable sources, you could have zero net emitters from light rail as well. Of course, there are a number of these measures in here as well.

Realistically, for transport, the mix is up for discussion but there are definitely a lot of ways we can improve it. I was looking here at the 3.4 billion passenger kilometres in the ACT each year. This is something that we could quite realistically look to replace with light rail corridors, making it so that certain facilities are built and people do not need to get in their car to go to childcare or go to work. In many ways, you need the car to get around at the moment. We could actually have cities that are planned more around light rail corridors. As you know, there are a lot of good examples, particularly in Europe, of light rail schemes that we could go down.

If we look to get 80 per cent of people using light rail as their daily commute and then the other 20 per cent by cars, it would not put substantial extra load on the electricity grid—I think about 10 per cent or so—but you would eliminate your petrol costs; you would eliminate your emissions from petrol as well. We all know petrol prices tend to increase. Imagine if that was not an issue.

Those are the two main sources. I know I am going on a bit too long but there are other things as well. We do need to look at dealing with agriculture, food miles. We do need to start getting some quite stringent targets on all these sectors to make sure that we are really moving as fast as possible to bring down our emissions in all these sectors.

There is going to be often the question of how fast we can move and how fast the science is saying we have to move, and the risks—the capital outlay costs, the dislocation, the retraining of workers that will need to be done—are often measured up against it. The way I like looking at this is that this is something that we do need to do. In history there are a lot of good examples where the will has been there to say, "We will do this," and those resources have been found. A good example is of course World War II, when half of the Australian economy was converted to war production. Instead of tanks and planes we should now be making wind turbines, solar panels. That is the sort of thing we want to look at.

I will just finish up on this motto. People have probably seen the movie *Apollo 13* about astronauts in the damaged spacecraft who need to get back to earth. The spacecraft was filling up with carbon dioxide and the flight controller in Houston said, "Failure is not an option." He sent his scientists off and basically said, "Find a solution. Do not tell me how hard it is. Just find a solution that works." And they did. I think that is the same kind of attitude that we do need to have when dealing with this problem. Thank you.

THE CHAIR: Ms Corcoran, do you want to make a presentation as well?

Ms Corcoran: Thank you. I have read and understood the privilege statement.

THE CHAIR: Thank you.

Ms Corcoran: I want to start by saying that I am just going to outline the financial case about how this can be done. It is centred on using energy efficiency as the means of saving money and funding the transition to renewables. It is not a new idea at all; it has been tried and proven. I remember looking at this about three or four years ago and doing some research on the internet; to my surprise, there were a large number of international corporations—I think HSBC—who just did this approach. It looked like an effortless transition, as far as they were concerned, to cut back on the energy used and use that money to invest in more expensive electricity via renewables.

If this approach that I am going to outline were adopted in the ACT, it would eliminate our electricity emissions within 10 years. This translates to about 50 per cent of Canberra's emissions. That is based on the ACT government's paper that they put in. When coupled with the initiatives that Leigh mentioned, that would bring us very much within reach of our 60 per cent target by 2020.

I am going to start with a bold statement: that energy efficiency gains of 30 per cent are realistic across the residential and commercial sectors, with minor behaviour change and payback periods of five years, on average, using existing technologies. I have run this statement by a friend of mine who is an energy efficiency consultant, and he said that it is a fair statement. I would welcome the ACT government investigating and validating that statement further. Particularly relevant to the ACT is that it is within the residential and commercial sectors, which is broadly what our economy consists of and where the emissions are coming from.

Minor behaviour change might amount to things like just turning off appliances when they are not in use—really no great imposition on lifestyles at all. No real lifestyle change would be required. And payback periods of five years—I think that is conservative, and I will go into some examples that will show you why. Using existing technologies is a really important point. There are so many things we hear about all the time that are wonderful technologies that are just one or two years away from commercialisation, but this proposal that we are putting on the table now is actually based on what we have got here and now to work with.

I will use an example that is close to my heart. My children attend Rosary primary school. In 2007 we were given a grant by the ACT government—thanks very much—to do a lighting upgrade. Basically they just put some controllers on the switchboards to reduce the voltage to the fluoro lights and changed the light globes over. This yielded electricity savings of around 25 per cent. It had a return on the capital investment of 35 per cent, which was less than a three-year payback, and an abatement cost of about $25 a tonne. The savings that were made—the school board agreed that those savings did exist and that they would then use that saving to fund 100 per cent green electricity purchase, which they have now done. That is within their existing budget, so they are not paying any more. That is an approach that I am hoping that we can apply to the ACT economy.

Let me give some more examples. Let me use the example of my house. Back in 2002, before we got serious about our own emissions, we used around 19 kilowatt hours a day on average. That was peaking in winter at about 40 kilowatt hours a day. We are an all-electric household, so no gas. Last year we averaged about 13 kilowatt hours

a day. I will say that there was significant behaviour change there, and a lot of woollen underwear purchased and so forth. My husband is in the process of installing a solar hot water system, and we expect that will then drop and our average use will be about five to six kilowatt hours a day. That was nearly a 75 per cent reduction in our electricity usage. And we do not actually change our life; we still have hot showers and cold beer.

Let me give some other examples. Let me mention another friend. She bought a new fridge. It is a single-person household. She bought a new fridge and she saved over 50 per cent of her electricity usage. Let me mention an anecdote that I heard from somebody in government who works in the commonwealth department of environment. She told me the story of a retailer in Sydney—she thought it was Harvey Norman—who replaced their halogen downlights because of the heat that those things generate as well as their being not very effective for lighting. I think they replaced them with LEDs. They found that they reduced their electricity consumption by 70 per cent because of the decreased pressure on the air conditioning—because the sheer amount of heat that these things generate means that the air conditioners have to work much harder. And let me mention another example I heard of recently, unimproved commercial premises, an office in Canberra. They were looking at a lighting upgrade and they estimate that they will make a 30 per cent saving in their electricity usage just from that lighting upgrade.

I am hoping to demonstrate that, particularly in the commercial sector in Canberra, there are some really big paybacks—small payback periods and huge returns to be made from just this energy efficiency. I will not go too much into that, because I do not think you can see it, but it outlines the main areas where energy efficiency is—the best paybacks. Right over here to the left, you will see commercial air handling. They are flagging air-conditioning systems as being an area that could really yield some big returns in terms of energy savings.

At this point I might just flip to my spreadsheet. Can you read those numbers all right? What I wanted to do was put forward a model that combined energy efficiency with the purchase of green electricity. This electricity—the usage here was based on the ACT government's submission. Again, that was 4.45 million tonnes of carbon emitted, which roughly translated to around 4,450,000 megawatts or something. That is because the 72 represents stationary emissions and the 71 is roughly taking gas out of the stationary emissions component of our emissions. Does that make sense? Again, these were 2004 figures, so there would probably be some increase, but for an illustration, just for a model, I think that we do not need to worry about that.

I have worked on the assumption that with our electricity we are currently paying $170 a megawatt hour. That equates to 17c a kilowatt hour. I think residential consumers pay about 15c a kilowatt hour and the commercial sector pay a lot more. It is all commercial-in-confidence with electricity retailers in terms of who pays how much, so it is impossible to really estimate, but this is just for the purposes of this model.

So we have got what the electricity costs the ACT here in 2009. This is what the usage is. If we introduced a target of five per cent cumulative every year for the next 10 years, that would reduce our usage from 2.2 million to 1.3 million, so it is

a reduction of about 40 per cent. As I was saying earlier, I think that is quite achievable if we set our minds to it. That is the actual savings, cumulative savings, and that would be the abatement costs, so that times the 170 is what the cost would be divided by five. Then it is spread across the remaining four years, so every figure thereafter contains part of that cost. Does that make sense?

So 100 per cent of your savings will be spread across the first five years; then that will be spread across the next five years, and so forth. So we get to an abatement cost of that amount. Then, when you factor in green electricity—currently green electricity is 6c extra using ActewAGL's green electricity—spreading that over the 10 years, I have just added 0.6 per year or $6 per megawatt hour. That gives you the total electricity cost for the economy in each year. As you can see here, in 2019 that is what we would expect the community to be paying for electricity compared to what they are paying for it now. It is just a model that illustrates that, with a 40 per cent energy saving, we can afford to increase our electricity costs to fully fund 100 per cent green electricity purchase.

Looking at it from an economy-wide or ACT economy-wide perspective, we have a few options available to us to pursue in terms of rapidly switching to renewables and drawing down our emissions. The feed-in tariff that we have on offer at the moment is that we will be paying installers of roof-top PVs 50c a kilowatt hour, which equates to $500 a tonne of emissions, carbon abated. If we purchased green power, that would be $60 a tonne. And to invest in energy efficiency would cost the community potentially between $20 and $40 a tonne. You saw the example from Rosary primary that cost $25 a tonne. I think that installing a solar hot water system would cost between $40 and $50 a tonne, so it is sort of within the model.

What about possible mechanisms to achieve this dual system? On the demand management side, there is the new program that has been introduced by the New South Wales government. It is replacing GGAS and it is going to be implemented on 1 July. It is really just looking at funding initiatives—funding investments in residential and commercial energy efficiency. We are interested in that scheme—I think it sounds quite useful—to help the ACT in terms of what it would like to achieve, particularly given that we have already got legislation in place that fits in with the New South Wales schemes. The thing that we do not like about the New South Wales one is that it has got pathetically low targets. And they are limiting their cost of energy-saving certificates to $35 a tonne, so any project up to that point would get funding and any project over and above that would not be attractive under the scheme.

We feel that the ACT could achieve this by changing legislation to set a target of five per cent cumulative per annum over the next 10 years and a cost of—we would probably want to consult with you further on what we thought was a reasonable cost that utilities would have to pay at the end of the year—something in the order of $50 to $60 to match the GreenChoice options and so forth.

The other option would be, just through the utilities licensing legislation, to introduce an efficiency dividend and make it a mandatory requirement that any utility that wants to operate in the ACT has to achieve an efficiency dividend—much like the federal government agencies. Does the ACT do it as well? It is just to find those savings. That

may well be a preferable model for the utilities, because it means that they do not have to have a scheme within the boundaries of which they have to work.

On the supply side, we think that there are a couple of options that might be workable. There is a mandatory renewable energy target; that would be increasing to 100 per cent by 2020. And you could look at the feed-in tariff—a stage 2 feed-in tariff—to cover big wind and solar. Obviously the costs are really critical, so you want to be able to pay that feed-in tariff to reflect what the current market value is for renewable energy.

Just to finish up, I think the good news is that we believe that the utilities should stay in business. They have been doing a good job of serving us efficiently over many years; they have got a lot of skills. It is not always going to be possible for people to generate their own electricity, anyway, through microgeneration. It is important for us to have a strong and healthy retail utility industry or sector.

The model that I outlined does give you extra margins in that the cost of green electricity as an extra 6c on top of the black electricity charge has a fair bit of margin in it to compensate electricity utilities for the lower amount of consumption. It may be not fully compensating, but it is better than the options: if they do not become proactive and offer the ACT community a real option in terms of good, cheap, renewable, reliable green electricity, they will probably find people overinvesting in rooftop PVs and lose a lot of their market in any case.

The other point that my colleagues have made too is that the electricity game is going to get tougher, because there will be a cost of carbon to be factored in. I think the federal government is now talking about a $10 cost of carbon within a year or so through the CPRS. I think there is a general acceptance that the wholesale price of electricity at the moment is 6c a kilowatt hour. If you add that $10 a tonne on that, it brings it up to 7c and it is virtually the same cost as wind power anyway. So to be able to charge the community extra for renewables will protect the utility's bottom line.

That is probably it from me. Are there any questions?

THE CHAIR: Thank you. I might start with a few questions. In the submission, it was proposed that 300 parts per million of atmospheric carbon dioxide be used as a way of determining a target. I was just wanting you to outline in more detail your rationale for choosing the 300 parts per million figure as opposed to 450 parts per million.

Mr Hughes: I will start off. I think the 450 parts per million target was what the world thought was a good target based on the 2005 IPCC report. I think papers had to be submitted to that by 2003, which meant that the dialogue ended in 2002. So the science they were using was early science. Since then, there has been a much greater appreciation of what the actual carbon force is and also what positive feedback loops are built into this.

Let me just give you a brief explanation of feedback loops. The Arctic icecap is a big white bit of ice that reflects light. Most of the light that hits it just gets reflected rather than being converted into heat. If that melts due to rising temperatures, then the white

ice is replaced with dark ocean, which then absorbs heat and it becomes a feedback loop. There are a number of those feedback loops around the world. We have found that 325 parts per million and a temperature increase of—we have had a temperature increase of 0.7 per cent so far and they say that at 0.3 per cent one starts to get that melting going. So that is the first feedback loop to kick off, at about 350 parts per million. Of course, we are past that now. The warming associated with that in the linear feedback leads to methane getting released from the permafrost, and the end result is that, once these feedback loops start to kick in, a linear process becomes a non-linear process and goes out of our hands.

The 300 target is taking basically a position that the climate that we know is safe at that level. That is what we have had for the past 10,000 years, through our human civilisation. We know that, at that point, these feedback loops are kicking in. We know that, once we start to hit beyond that, these feedback loops start to kick in. I think that is why we are moving into that—moving towards that target, as I guess most of the world's climate scientists are. That is why in Copenhagen earlier this year there was a scientific congress called to update all the science—because it is moving that fast.

THE CHAIR: I want to also touch on renewable energy, which you mentioned in your presentations. You talk about a renewable energy target of 100 per cent by 2020. First of all, I was wondering whether you see this 100 per cent as being generated in the ACT so we have a local industry. And what capacity do you think the ACT has for local renewable energy generation? To start with those two questions would be good.

Mr Hughes: I am not the expert on renewable energy. A lot of the submission is a collaborative effort with people who are, so we might take some of that on notice. But just briefly, in terms of particularly wind power, the ACT has been said to be not very good for wind power within its borders but the ACT is right next to places which are very good for wind power. Just as our footprint is larger than the ACT, where we produce our electricity is going to have to be outside our borders.

That is for wind power. In terms of other opportunities within the ACT, there is already methane capture; you can produce electricity from that. There are also photovoltaics. Photovoltaics are one of the more expensive forms of renewable energy; the low-cost ones are solar thermal and wind turbines. In terms of within the ACT borders, there are a lot of efficiency gains and things that we used to cut electricity use and replace it. There are solar heat pumps and things like that to replace gas heaters and electric heaters. We would be looking at that within our borders, at the same time as looking at generation where it is best.

Ms Corcoran: I would reiterate that, in terms of large-scale solar thermal, it is going to be an economic question for the ACT as to whether we would be better off placing it in a sunnier location versus the industry and employment benefits that we might accrue from that, particularly with technology, access to the ANU and that sort of thing—local smart jobs. It would require a detailed study, and that is not something we have done.

THE CHAIR: I did want to touch too on whether you had had some thinking about the sorts of jobs and industries that might develop. I have just one last one before

I hand over; I am sure my colleagues have got some questions. It is on the feed-in tariff. Noting the calculation that you used of the increased cost to householders for the 10 megawatts of PV through the feed-in tariff, did you take into account the commercial users, the business users? It seemed that in your calculations you were putting in only householders or 100,000 householders. I was just wondering whether that was for a reason. How did you come to calculate that burden?

Ms Corcoran: These were figures that were given to me by a friend of mine who is an energy consultant. He was just trying to indicate what this might cost householders. It is not to say that it would not be spread across the commercial sector at all. I think householders are 40 per cent of electricity use.

THE CHAIR: The commercial users use more electricity.

Ms Corcoran: Yes; that is just an error, I suppose. It really was just a kind of look at how this cost might spread and impact on the community. It is really saying that there is not much of an impact. We understand that, but really, in terms of the dollar investment that you have made, you have not made much of an impact on your emissions. That was really what that one was.

THE CHAIR: Ms Porter.

MS PORTER: I have a couple of questions around behaviour change. Mr Hughes and Ms Corcoran, you both referred to that. Behaviour is one of the hardest things to change; we all know that. Could you say how you would propose to market the message for behaviour change or how you would suggest that we might?

Also, I wanted to reflect on some evidence that was brought before us by some other witnesses, who said they were getting a bit tired of having to change their behaviour—they were getting jaded about it because they thought they were doing it all and that nobody else was really trying. I do not know if I am correctly interpreting what they said, but they were definitely getting very jaded about the whole thing. There is an amount of disillusionment out there on the part of people who have been trying really hard to change their behaviour. I am wondering whether we are going to run out of goodwill in the community over time.

The other thing I wanted to ask about is the idea of phasing out fossil-fuel cars. I did not think you were suggesting that that might be something the ACT could do by itself, so how could you see that we could have an influence on that? Would you approach it from an incentive point of view with respect to people who purchase vehicles, such as reducing registration costs for more appropriate vehicles, or would you try the stick approach instead?

Mr Hughes: Behaviour is quite hard to change and you do often hear that people who have changed their light globes are starting to get quite frustrated, firstly, because they seem to be the only person in the street who is doing it and, secondly, because it does not seem to have much of an impact. If you look at household emissions—households as a sector—about 20 per cent of emissions come from households and the rest comes from industry and other sources.

People say, “I’ve changed my light globes but there’s still the coal power plant down the road.” I do not mean here, but it is the case in Sydney. So there is a bit of frustration there. I guess people need to see that the rest of society is changing as well. They need to see that there are those large-scale changes, and that business and government are acting. They will then feel that it is not just them going out on a limb. So I think that is part of it.

I also think people need to feel that this is their process. This is something which we should be having town hall meetings about, to actually work out what is going to be the ACT’s plan. In that way, people will be able to discuss it, think about it and feel ownership of the decision. That kind of collective action is going to be a big part of it. Education seems to be quite a big one as well, because there is still an enormous gulf between what the scientists are saying and what is generally understood around climate change.

A lot of things, as Margaret said, necessarily would require behavioural change. You would need to make a conscious decision to put investment here rather than there. But in terms of those times and places where behavioural change would help, in a lot of ways it needs to be facilitated. I am sure that a lot of people would like to grow their own vegetables rather than get the shopping bag that has been around the world twice, but they do not have the time. They would prefer not to have a car but they need to pick up the kids from here, drive to work here and do all of that stuff. People might want to live green but it is quite difficult to do so. They could say, “I’m time poor; I have these constraints; I have to live this way.” I think addressing that side of it as well would start to open it up.

There are a number of good examples. I refer to the growth in permaculture gardens, and I refer particularly to Latin America with respect to this topic. They have had food security crises and they said, “This is a crisis; we need to respond to it.” So there was quite an enormous change in behaviour regarding people riding bikes and catching buses, and also growing their own food, even within cities, and we could talk about transport emissions due to food, and agriculture emissions—nitrous oxide from fertilisers. A lot of that has gone now in these places. I know that in Havana 80 per cent of its food is grown within the city limits, and that is without industrial inputs. These are potentially some examples that we could look at in terms of ways of changing behaviour that seem to be holding. They are not just a flash in the pan.

Ms Corcoran: My experience, when we did the project at the primary school that my kids attend, is that it was really empowering. It was a positive message that we are not going to spend any more money; we are going to do an investment and shift some resources. The behaviour change component was minimal. There definitely was; we did back it up with a program of switching your lights off when you go out of the room and so forth. But I was really amazed at the receptiveness of the school board and the broader community, once they learnt about how easy it was going to be and what a big difference it was making. They were very proud of the school. People often come up and ask for my opinion on whether they should put PVs on their roof or what they should do. So they really did make a cultural change, and people were very motivated.

I remember a group of women who were talking and one of them came up to me and

asked me what I thought she should do about this stinking hot summer and how hot her house was. Everyone else in the group started to offer suggestions and said what they had done in their house. At that point I thought, "We're changing." If the government can capture that mood and say, "We're changing with you and we'll actually help you through this," it will be very exciting for Canberra.

Mr Hughes: One thing that often comes up is split incentives. The electricity bill will be paid by the person renting the house, but whether a solar panel is put on the roof is a decision of the landlord. So those incentives do not match up, and that comes out a lot of times in terms of limits to behavioural change.

On the car issue, I think there will need possibly to be both, in terms of incentives and also the stick approach. There are some high-end cars and systems and we would want to say, "We don't really want to be registering these on our roads." But for those cars about which we say, "Okay, this is fine to still have; this range is acceptable for emissions," you would still want to have some incentive to tend towards the lowest of the emissions. That could be done through lower registration costs or through other mechanisms, and that would be quite useful.

MS PORTER: A number of people have suggested that we in the ACT should be leading. I think you indicated that as well. One of the issues that has also been presented to us is that if we lead here in the ACT, because of the cost to people, they will move. They will not want to be here anymore because the cost of electricity will go up and the cost of all sorts of things will go up. So they will just move, and we will move the problem elsewhere.

Ms Corcoran: I would like to go back to the point that I made earlier. I think it is quite well recognised that the wholesale price of black electricity is about 6c. With the feed-in tariff, I think the retailers are compensated 44c for the 50c that they have to outlay, under the feed in-tariff. So that is a recognition that the cost of the electricity through the grid will be 6c. When we have a $10 a tonne carbon price, that brings it up to 7c. This is a little bit out-of-date, but there is an article in here by Mark Diesendorf that said that the price of wind power is about 7½ to 8c. So the margin is 2c. What we are talking about is not significant enough to make somebody want to move. Even if the government was just going to pass it on and not make any extra on top of that, if ActewAGL decide to make green electricity 2c on top of what the black electricity price is, they will still be covering the cost.

Mr Hughes: We should be doing this as part of a global response and a national response as well, so we might not be leading ahead of other places but we want to be sure that they are not far behind. In terms of forums, at COAG or internationally, the message we want to be saying is, "We'll take the first step and we want to make sure that you're stepping with us."

In terms of the cost, in looking at a lot of these technologies, there might be the first kind of capital outlays, the initial investment to put up the turbine and to do all of that, but in terms of the cost in the long run, it is not like there are continuing, ongoing expenses, particularly if you are talking about extraction of fossil fuels to keep it going. If it is renewable, there are not those costs there. If you do not have to buy petrol to come into the ACT, if you do not have to buy electricity from coal power

plants, if that was something that we owned and operated, that would be something which would be a nice little money spinner, I think, in the long term.

The actual finances of it still need to be worked out. We are still very much a community group rather than a financial think-tank, but all figures from the Stern report onwards look at the actual finances of climate change and say that the costs of acting early are a lot lower than the costs of acting later.

MR SESELJA: I have a couple of quick questions. One follows on from Ms Porter's question about hearing of people moving over the border and the like. Probably one of the bigger issues that was also put to us was the issue around the shape of the CPRS, the ETS nationally, and the fact that if we cut our emissions a lot then under the ETS someone else can use those permits, or those permits are cheaper and that essentially it has no net effect on Australia's emissions. How does that play into your thinking in terms of the ACT showing leadership? Is that something that would lead you to a different conclusion or do you still believe that, notwithstanding such a scheme, we should still be showing leadership even if, in the end, at an Australian level, it does not make any difference to the overall emissions?

Dr Wood: The CPRS does set a target for Australia. What happens in the ACT will not affect the target directly or will not affect Australia's emissions directly, apart from purchasing green power, where the federal government has committed to retire permits for each amount of tonne abated through green power. The ACT could choose to retire permits, but I would not really support that, unless the federal government funded it. But the real difference the ACT could make is through demonstrating that it can reduce its emissions at low cost and hence demonstrate to the federal government and other state governments that they can also do that. I think that is really important. I think the territory government should be lobbying the federal government and saying that we want tighter targets.

MR SESELJA: On a separate point, Ms Corcoran, I am interested in your example of your own household energy use and the significant reduction from 19 to 13, and you are looking at five or six, I think. Are you able to tell us briefly what some of the behavioural changes were. Also, what, if any, were the capital costs or the up-front costs to the family to bring that down?

Ms Corcoran: We have got an old ex-govie. The lounge room was an icebox, so we did a solar passive retrofit. That cost us about $15,000. We knocked out the north-facing walls and put some thick tiles on the floor. That was certainly a big factor in reducing our ongoing needs in winter. We have got a heat pump system, so that has been really useful. It just feeds in. It is thermostatically controlled, so it just cuts in and out, depending on the temperature in the room.

In terms of the $15,000 investment, it was really interesting. In the year that we did the renovations, we moved the lounge room into the room where we have got the heat pump and we just shut the doors off. So we ended up in that year reducing our energy usage really considerably. If we had just switched rooms, so that our evening heating was in that room where the heater was, it would have been even more efficient, but we did not realise that until we were well and truly into the process of gutting the other room. Theoretically, you could have done it at no extra cost. But there were a lot

of aesthetics and amenity that we gained by investing in that room.

In terms of behaviour change, I used to set the thermostat at 26. I now set it at 20 and I wear thermal underwear and put a blanket on my knee when I am watching the tellie. That is really it. As I say, we have hot showers and cold beer and we do not have to do anything much more than that.

MR SESELJA: 26 is very warm.

MS PORTER: I was going to say that I have not had my thermostat set on 26, ever.

MR SESELJA: That is almost sweating.

Ms Corcoran: Yes.

THE CHAIR: Thank you very much for coming along this afternoon. I am sure there were a lot of other questions, but we do have some other witnesses to hear from, so thank you for your time. You will be sent a copy of the transcript. Could you please look at that and, if you have any corrections, just let our secretary know. Thank you.

Mr Hughes: Thank you very much.

TULLY, MR WILLIAM JAMES, Action for Public Transport
WATSON, DR CHRISTOPHER, Action for Public Transport

THE CHAIR: I would like to welcome Mr Bill Tully and Dr Chris Watson from Action for Public Transport. I will start with the privilege card. If you have had a chance to read the privilege card, could you indicate whether you understand the contents of that card—do that as you start to speak. Do you want to start with an opening statement or will we just ask questions?

Mr Tully: I will make an opening statement, if that is okay. I am the convenor for Action for Public Transport at the moment. I have read and understood the privilege statement.

I think a brief introduction to the inquiry is in order. Our group is a community organisation. It started in the 1970s. It has re-activated recently for a variety of reasons. We are very concerned at the rise of greenhouse gas emissions in Canberra and the bad effect of private and commercial vehicles on global warming and things like that. We push very strongly for a much better, stronger and better financed bus system.

We realise that buses, trains and trams and all the rest of the forms of publicly funded transport also contribute to global warming. There is no doubt about that. However, comparatively speaking, it is at a much lower level per capita than the private sphere—the cars and all that go with it. Therefore, we welcome this opportunity to maybe say a few things about the effect of increasing public transport—looking at it positively—on lowering the various emissions. We are here for that particular issue. Chris, would you like to add something?

Dr Watson: Yes. I have read the privilege statement. Thank you very much for having us here for this inquiry.

Transport generally is around 20 per cent or more of our emissions in Australia. I think there were some figures here in the ACT that put it at about 20 or 23 per cent. In this car-oriented society in the ACT, let alone elsewhere in Australia, a fairly big proportion is going to come via the private car mode, let alone trucks and so on. The Greenhouse Office figures show that, if you can get a well-patronised public transport system, you are going to lower the per capita carbon emissions from our mobility. With such a low proportion of people using public transport in the ACT—probably only about 10 per cent of trips are by public transport; I am not sure what the exact figures are but it is very low.

With the population increase in Canberra, and a lot of people going out to outer suburbs in particular, it is going to be very hard to get the carbon dioxide coming from our transport mobility down. Let me just give a little bit of information on this one. As we know, we are about 350,000 here in the ACT. We are growing by about 4,000 a year. Of course, this will continue. I think it was in the paper a couple of days ago. We will probably be at about 400,000 by 2020. By the way, in our submission we were using "m" for hundred thousand, not million. It will be about 400,000 by 2020. That is adding, as I say, about 4,000 a year. It is going to be hard just to contain, let alone reduce, our carbon dioxide emissions.

Of course, the ACT is going to reflect Australia's population growth. I have been concerned with sustainable population levels for many years. Australia is growing per year at about the size of Canberra—300,000-odd a year. And we are still encouraging—sadly, I think; you might have different views—high birth rates and very high immigration rates for skills where we should be re-skilling our own population.

To cut a long story short, we in the ACT are going to be saddled with continuing population growth and it is going to be very hard to get our CO_2 levels down. I would like to add a few more ideas, but you go on, Bill.

Mr Tully: If I might continue, the question is befuddled by several things. In a letter that Dr Watson got in February last year, the ACT Chief Minister admitted that the ACT does not publish detailed greenhouse gas emission statistics. So we do not really know where things are. That is just one example.

There is also another one when it comes to transport policies and many of the other policies to do with the running of the ACT—and, indeed, the states, the federal government and all the rest of it. The various bodies tend to overlap. It is part of our federal system—I admit that—which may have some advantages. We do not quite know what role certain bodies have—ACTPLA, for instance—on the whole question of roads, footpaths and when developments happen in certain suburbs. You get the situation where there are no footpaths in new suburbs, but you also get the situation where the roads are very narrow and do not allow for easy bus transport. Should this be? There could be more coordination at the various levels on this one. Transport is a national issue, not just a state thing. It needs to be addressed a little more stringently, shall we say, at that level.

These are two of the things that I put down in my submission. There are immediate issues and specific issues that Chris and I might like to go along with.

Dr Watson: I can table a few documents regarding this. Where the ACT does not publish detailed greenhouse emission data, we obviously need to have that. Every Saturday in the *Canberra Times* we know what our dam levels are, whether we are down to 44.3 or 44.2. We need regular issues of what are our overall ACT emissions. That has got to come out as regularly as possible. I will table that letter from Stanhope's office where his adviser says that the ACT does not publish detailed greenhouse gas emission data. I hope they will get around to it.

MS PORTER: What date is that letter?

Dr Watson: This is back in 2008—27 February 2008.

MS PORTER: Thank you.

Dr Watson: And a couple of other ideas here—

THE CHAIR: Could I just clarify something, Dr Watson. When you are talking about the need for the published data, is it on buses and cars that you want this data to

be collected and published?

Dr Watson: Yes; that is right. It has got to be broken down.

THE CHAIR: What do you see being the benefits? You see an incredibly important need to collect it. What do we see the benefits of that data collection being? What would we use it for?

Dr Watson: People would know, just as you know that your dams are 44 per cent or getting down to 30 and therefore you realise you have got to have stage 4 restrictions.

THE CHAIR: So is it awareness raising, education—

Dr Watson: Yes. It is awareness education. A lot of people, even in the climate change debate—you can hold hands around Parliament House, but people do not actually know what the carbon dioxide emissions are in the ACT. Yesterday, in the paper, I think I read that Penny Wong said what our emissions are in Australia. They have gone up by over one per cent in this last year, and I dare say that has happened in the ACT. It might even be more so. We may have gone up two per cent here. We do not know.

I might just table a couple of things here. The government tends to be car oriented in this society. There is the proposed new road, the Majura parkway. We use this euphemism. I remember someone in the US many years ago always called them ring-roads or parkways around Washington. And a car park—to bypass red tape for a big car park for Canberra Hospital. May I table those? It means that we are still in the mode of catering for the car as if that is the be-all and end-all. Of course, as the decades roll by, it will be not only the hip-pocket nerve: the fossil fuels are going to diminish and the prices are going to go up hugely. And in 2009 we are still planning willy-nilly around the car mode.

I might table another thing here. We mentioned ACTPLA. I met Mr Neil Savery last year at a ministerial conference out at Kippax. I said to Mr Savery, "Why aren't you involved in public transport and transport generally in the ACT, particularly out at the airport, which is a big de facto town centre?" I said, "Why aren't you encouraging bus services or even a transit way out to the airport?" He said to me: "Watson, we're not involved in public transport. We're not involved in transport." That was followed up this year on 17 April, when Richard Johnston, President of the ACT Division of the Planning Institute of Australia, said that responsibility for both transport and planning and the land development program were taken away from the ACT Planning and Land Authority. Isn't it appalling that the authority that comes under the government, under the role of this Assembly, is not involved in transport planning? It is appalling.

What is it to look to be a Canberran and go to Adelaide and say, "Heavens, our so-called authority is not involved in public transport planning"? I wonder whether we have got any or many qualified professional public transport people anywhere in this town. When I wrote to ACTION—I table here something back in 2007 from Tom Elliott, general manager of ACTION. He wrote back to me. He said, "Bus priority measures such as dedicated lanes and traffic lights are not our direct responsibility." He said, "You should be writing to the Department of Territory and Municipal

Services." I wonder if there are any well-trained transport planners in TAMS. I have my doubts. Am I being too cynical? I may table those two points there.

THE CHAIR: Dr Watson, I would like to pick up on that. There was an integrated transport framework that was released in August 2008 via TAMS. Have you seen that or has Mr Tully seen it?

Mr Tully: No, I have not.

THE CHAIR: It also touches on this idea that you spoke about, Mr Tully—around the integrated transport across the city and looking at how we might do that. I was just wondering if either of you had seen it.

Dr Watson: No, I am not aware of that. I do not know whether that has been a good consultation. Certainly the whole consultation—every Saturday we get this thing: "This is community consultation." What I think has happened in this town is this. I have been here now since 1973. In the early days, the consultation was really good. For instance, if you were having a new suburb designed or anything like this, you would have things in the mall here for a week; you would have officials standing around. And the same thing in Belconnen. Then these things would go before the joint parliamentary committee or an appropriate committee. Then you would make submissions and then you would have a triangle—your government planners here; we would be here. You would get a wonderful interaction. That is what has to happen. You cannot be just doing a little modicum of consultation in a community hall or somewhere.

Mr Tully: Yes.

Dr Watson: It has got to be really full on so you come across it.

Mr Tully: Madam Chair, might I just add to that? In the early days—I came here in 1968, Chris in 1973—there was a consultative process. And later on, with the Assembly—when the Assembly started some years after—Action for Public Transport came and we had an ongoing consultative process going with us. I am not suggesting that we are the big be-all and end-all; there are lots of other groups who could be involved in various committees and so forth, looking at a lot of the things that Chris has mentioned and I have mentioned. There are things happening with the buses at the moment that are very disturbing. I have listed them in part of the document I gave. That might be something that could be taken on board, but it is a much wider question of governance and the degree to which the community are allowed, able or encouraged to be part of the process.

THE CHAIR: Mr Tully, in your submission you did mention this advisory committee that you were part of.

Mr Tully: Exactly.

THE CHAIR: Was that a formal set-up? Can you give a little bit of context as to what that was?

Mr Tully: It was.

THE CHAIR: Do you see that a new committee should be set up to carry on that role or do you see that there is a slightly different role that a committee could carry out? I am just trying to get to the point around advisory and input.

Mr Tully: It is a very good question and it is not always easy to do. I know it means a lot more mucking about. Chris, you were on such a committee. You were part of it. And there were other committees looking at libraries and so forth in the earlier days, possibly before the Assembly as we know it now. Over to you, Chris.

Dr Watson: Yes, I was on that committee. You would never, ever have had the debacle, if we had had that advisory committee, of this current tragedy with the Belconnen public transport arrangements. I have got a couple of things to table here. If you had had an advisory committee, there would have been people around that table really thinking about what was going on. I admit that I have been terribly hoodwinked. I have been using public transport for decades, for 30-odd years. I thought that the so-called Belconnen new arrangements, which they keep calling Belconnen town centre improvements, were going to be a lovely changeover from one interchange to another. Only a few weeks ago I realised that users who were using the mall or having to change—a lot of us do at Belconnen—were going to be literally out in the cold. Therefore, I had to jump up and down. "A cold day for bus transport"—I got a fair bit in the *Chronicle* there.

The users of the mall now have to run the gauntlet across car parks, an uncovered walkway and then Lathlain Street. With respect to all of the little temporary shelters, they call them stations but they are little temporary shelters spread out, with only a couple of seats. You get off one bus and you might have to walk 50 metres around to another and you are often crossing side streets. It is a nightmare. I am still relatively agile. We are both relatively agile but we are not getting any younger. You see old ladies standing there who cannot get a seat, and young people with prams. It is a tragedy. All that we get in the Saturday paper is "Belconnen town centre improvements". They then say at the back, "Oh, there'll be temporary arrangements while these improvements take place." For how many years are we going to have these temporary arrangements?

The government have got into bed with Westfield and apparently they are going to build what they call a retail station. That was supposed to start at the beginning of 2009 and be finished at the end of next year. I doubt whether it will be finished for three or four years, and we will have this shocking temporary arrangement. I hope some of you people will come out and drive around these so-called stations around Belconnen Mall. Of course, Westfield are charging for their car park. They are not going to be worried about fulfilling their obligation, and the shareholders might say, "No damn money in this day and age." So we have been absolutely conned and hoodwinked. I am furious that every Saturday this still goes out in the paper: "Belconnen town centre improvements". May I table that material?

MR SESELJA: Dr Watson, you said earlier that you thought our birthrates and our migration rates are too high. I wanted to drill down into a couple of those things. What do you think is a good population for Canberra? Would you like to see it grow,

stay steady or go backwards?

Dr Watson: I am a retired soil scientist. I have been involved in a population sustainability group and I worry about soils, climate change and the whole state of the Murray-Darling. I am with Dr Tim Flannery and so on—we have really got to level off and reduce population. A lot of our food comes from long distances. Of course, the future of irrigation in the Murray-Darling is up for grabs. There is not enough water. Really, we are in queer street. We are going up like that in population, and similarly with our carbon dioxide use. Most of Europe has levelled off, but Australia, growing as it is, is higher than the world average. Of course, Europe has at least come to its senses at long last and is levelling off or decreasing.

To answer your question, Mr Seselja, we are part of Australia and, being the national capital, we will continue to grow. The Chief Minister ought to be saying to COAG and so on, "Let's put the brakes on Australia." Do not get this idea that growth in numbers is good. It is a matter of a combination of our numbers and our per capita; we have got to get them both down. So we have to try and stabilise and get the numbers down.

There are a lot of vested interests. People who want to sell things straightaway are always after a population increase. The Business Council and the Property Council write letters in the Sunday *Canberra Times* every week, saying: "Let's do this and that." That leads on to one other thing. Now we have the syndrome of expanding Canberra and having small, little blocks. Out in west Macgregor, which is the latest—Macgregor West—there is a subdivision going on, and I doubt whether, as Bill says, there are footpaths. I went in to ACTPLA and all they are talking about now, for their planning, is, "All we want to do now is to look after the government's affordable housing action plan." So town planning principles have gone out of the window. Most of the blocks in this subdivision are not solar oriented. So the poor buggers who are buying this so-called first affordable housing will have great big bills because their houses will not be solar oriented. Of course, that will hit the hip-pocket nerve. This is an absolute tragedy. What has happened to ACTPLA? With respect to bus use from west Macgregor, that will be an hourly service.

MR SESELJA: I wanted to touch on this issue of numbers. If Canberra is not to grow, given that we are a spread-out city, how do you propose that we achieve better public transport outcomes without getting some sort of density in our city? If our population stays stable, without moving all the people from Gungahlin into new apartments in the city, it would seem very difficult to get the kind of density that would underpin a sustainable transport system.

Dr Watson: Of course, a sustainable transport system is just one angle. It may be better, as we are getting more people in, for various reasons, because Australia is growing, to have more well-designed low and medium density, as long as they are solar oriented, rather than having this push for a whole lot of little, narrow blocks that are facing the wrong way. I do not know how we are going to do it, but we need some good-quality solar planners. I think that in Germany the ratings for houses go up to 10, don't they? I do not know what this one out at—

Mr Tully: Yes.

Dr Watson: Macgregor West will get. I really do not.

Mr Tully: Mr Seselja has asked a pretty valid question. We are growing. We are growing to sizes unforeseen in the early days. There is a huge problem in planning and in getting a sustainable bus system. This means spending money in an age of recession, if not depression, financially speaking. Therefore there is a need—and I go back to this again and again—to have more consultative processes.

Earlier on, Margaret Corcoran mentioned how wonderful it was to get people together to talk and to get ideas out for practical solutions. A little bit more of that needs to be done, perhaps on a more formal basis. These committees are wonderful. We are able to say what we have to say. But it is a question of getting ideas going and getting all sorts of people together and feeding in.

I disagree slightly with Chris on the population aspect. It is very hard. It is a difficult question, and I would not like to be a doctor of philosophy or sociology or whatever and answering it, because it has to happen. So what do we do? Do we expel people from Canberra or do we cope as best we can with the situation? It puts an enormous responsibility on the Legislative Assembly because the nature of governance in the ACT means that it is under the control largely of the federal government. There is not the freedom of movement.

There are ways of linking up. It means more work for people in the Assembly, of course; I do not doubt that. It also means a lot of work for those in the community who are willing—and Chris and I can put our hands up for that—to come in and be part of this process. And there are different opinions. I am not suggesting that I have got the right opinion, Chris has got the right opinion or whatever. But there are lots of things that are wrong with public transport at the moment that need to be addressed. A lot of simple things need to be fixed, such as schools having buses directly to and from.

I hope this inquiry can keep going in some way. It is one thing to have an inquiry, but then it goes into another phase and it gets lost. I think it needs to keep tumbling on. I think they are very useful. This particular consultation is certainly very useful. We can have our say and we can put our submission in. But there needs to be more of it, and it needs to be a much wider and much more long-term consultative process.

Dr Watson: I did not answer Zed's question properly. How are we going to get more money for public transport? You have all been on the estimates committee in the last couple of weeks. The point is that, when I talk to bus drivers and so on, at peak hours now there are no extra buses available. I try to avoid peak hours but they are often full. That is off-putting for people using public transport, even from half past three in the afternoon until six. So you can't all of a sudden put extra services on, even if it is shown to be needed. I do not know, Mr Seselja, whether this Assembly can ask for extra money for infrastructure that is flowing around Australia as a whole for purchasing extra buses, so that you can do these not only at peak hours but also at non-peak, so that you can have half-hour buses.

I mentioned Macgregor West, because I can get a few buses; I am lucky. Latham is

almost inner now, because there are about three or four buses. Once we were outer, but now three or four buses are circling around us. But if you are out at Macgregor West, you will only get a bus once an hour. You will have to come in to Belconnen interchange and then change, and it takes a long time. Of course, there are some buses now that go at peak hours.

Mr Tully: Explorers.

MS PORTER: Xpresso.

Dr Watson: Xpresso; that is right. So that is good. But, by and large, in outer Gungahlin or Belconnen, often you have only got hourly buses. They would probably say there are not enough buses to put in a half-hour service, let alone even more frequently at peak hours. Obviously, we need a massive injection of money somehow, and I do not know how we are going to get it. But that is the only way in the transport area that we are going to reduce emissions and get more of us travelling on public transport. Really, there are quite a lot of people of our age who would travel during the day when it is not so crowded if they were given free tickets. You have got to be 75 to get a free ticket now, but why can't that come down to 70 or 65?

Mr Tully: Or 60.

Dr Watson: Sixty. And it could come to other groups—the disabled, the unemployed and so on. So you would get a lot more people using it. It probably would not cost a huge amount of money to give more free tickets. This is perhaps a fairly minor point but it gets up people's noses: at the moment you have got off-peak tickets. Once it is after half past four, if I am not out to Belconnen by half past four, if I have got a daily off-peak ticket, I have got to pay for another ticket. That does not happen in Sydney. Half the time, in travelling across Canberra, if you have got a medical appointment at Deakin, to get to Belconnen by, say, quarter past four, when your bus might go, you then have to pay for another ticket.

So there are these small things that could be done to help a lot of people who are on concessions. Of course, it is a social question as well. A lot of people, as they get older, could cut down from one car to none or families could cut down from two cars to one—leave their cars at home, not pay Westfield for parking. Also, you are cutting down on possible accident costs. There are a lot of other costs in a car-oriented society. As I say, with all of this emphasis on roads, if you did a whole analysis of all of the environmental and social issues, I am sure it would be very marked indeed for well-patronised public transport.

THE CHAIR: We do have to go into a private meeting.

Dr Watson: Yes.

THE CHAIR: I note, Dr Watson, that we do have your letter on the west Macgregor matter which we will discuss in our private meeting.

Dr Watson: Thank you.

THE CHAIR: Mr Tully, did you have one last statement to make?

Mr Tully: I will say a final word for the drivers of buses. They are having a very tough time. In some areas, the number of passengers is increasing. They need to be talked to a little bit more and given some sort of consideration. In my view, not to put it too alarmingly, the bus system in Canberra is in crisis. There needs to be an inquiry into it—a much wider inquiry.

THE CHAIR: Thank you very much for appearing this afternoon. We will now adjourn the hearing.

The committee adjourned at 3.48 pm.