



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

**STANDING COMMITTEE ON CLIMATE CHANGE,
ENVIRONMENT AND WATER**

(Reference: [Ecological carrying capacity of the ACT and region](#))

Members:

**MS M HUNTER (The Chair)
MR J HARGREAVES (The Deputy Chair)
MR Z SESELJA**

TRANSCRIPT OF EVIDENCE

CANBERRA

WEDNESDAY, 23 MARCH 2011

**Secretary to the committee:
Mrs N Kosseck (Ph: 6205 0435)**

By authority of the Legislative Assembly for the Australian Capital Territory

Submissions, answers to questions on notice and other documents, including requests for clarification of the transcript of evidence, relevant to this inquiry that have been authorised for publication by the committee may be obtained from the Legislative Assembly website.

APPEARANCES

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Amended 21 January 2009

The committee met at 2.03 pm.

SCHOONEVELDT, DR JOHN, Visiting Fellow, Fenner School of Environment and Society, Australian National University

THE CHAIR: Good afternoon. Welcome to this public hearing of the Standing Committee on Climate Change, Environment and Water. We are inquiring into the ecological carrying capacity of the ACT and region. Welcome, Dr Schooneveldt. I want to draw your attention to the privilege card. We need to make sure that you have read and understand the privilege card.

Dr Schooneveldt: Yes, I have read it.

THE CHAIR: Thank you. Would you like to start by making an opening statement?

Dr Schooneveldt: Yes, I would. Thank you for the opportunity to appear before you today. I am an ecologist with a special interest in human ecology. This discipline is concerned with the interaction of people and the natural environment. We try to bring all the bits and pieces of scientific evidence together to form a total picture of what is going on. So it is like doing a jigsaw puzzle; we put the pieces together. It is also a bit like what forensic scientists do in taking bits of evidence and then putting those bits of evidence into a scenario of what might be happening or what might happen. We try and do that for specialist research findings.

I am currently a visiting fellow at the Fenner school. I am also a director of the sustainability science team, which is an independent research group that consists of people with hair of about my colour—ex-ANU people, CSIRO people and so on who feel that we still have something to contribute and who work together as a team doing consulting and research work wherever we are wanted.

I have also spent quite a few years in government and business, as well as in academia, going in and out of government. In government, it was mainly in the commonwealth public service, in the Prime Minister's department, social security, and even in the old department of supply, going back quite a way.

MR HARGREAVES: That is a long time ago, John.

Dr Schooneveldt: It is a while ago, but that is what grey hair means.

MR HARGREAVES: Tell us about it!

Dr Schooneveldt: In my submission I argue that the carrying capacity of the region is totally dependent on the way we manage our local regional economy. Under the “business as usual” scenario, we have half a million people in the region and there is powerful evidence that that is already unsustainable. We are bleeding resources as we export our grain; we export our food, out of the region into Japan or wherever, and the nutrients and things go with it and they are not coming back. So our carrying capacity is already on the downhill slide.

If we can manage our economy on a sound ecological basis—again, I am talking about the regional economy, of which the ACT is a part—we can carry a much larger population and do so sustainably. But we have to change from a linear extractive model of economic activity, where it is a matter of extracting a resource, using it, wasting it, into a cyclical system which, like nature, turns those nutrients back into the soil. The carbon that goes out must come back into vegetation.

Can we do that in this region? In my submission I argued that we are in a very good position to do that. If Canberra is to be serious about regional development, we cannot afford to live like inner city areas, expensive areas of Sydney and Melbourne. We have to keep a regional base for our activities. So I am arguing really that we have to change the way we function nationally. Local governments are in competition with each other and they are being picked off one by one, as it were. Their resources are being taken away from them, they are out of local control, and they are being sucked into the big cities of Sydney, Melbourne, Brisbane and so on, at the expense of regions. As a nation, we spend about five per cent of our total tax revenue on our regions. Other countries spend 20 per cent or more. So we have a real imbalance in the way we are operating as a nation. Our states take about 40 per cent of the expenditure and the commonwealth takes about 52 per cent, from memory.

There are plenty of people who would love to leave our sprawling cities and come and live in our regions, but the regions lack the facilities. Why? Because they are starved of money and resources to be able to do it. The exception is in this region, where we have the national capital and we have some excellent facilities. But we need to develop this region as a region rather than just as a little city. And that is the essence of my submission. I am happy to take questions on that if you would like to explore some of the ideas further. How to do it is really the critical question—how to manage the water, how to do the recycling that we are talking about, how to do the energy production, how to get that carbon back.

I did a submission for the Commissioner for Sustainability and the Environment on what regions could be doing under the current regime in the region, and that is published on the net and it is available, although I do not see too many regions actually doing it. But it is about managing local economic sustainability, at a regional level primarily.

MR HARGREAVES: Could you give us a couple of examples? In your submission you talked about how some of the regions could do things a little differently.

Dr Schooneveldt: For example, a burning issue at the moment is carbon and what we can do about carbon. We can sequester all of Canberra's and regional emissions easily in our region. We can be completely carbon neutral. In fact, we can sell some of those carbon rights to others who are less sustainable, and that becomes an income for regional farmers, to be able to grow that carbon and basically offset it against the emissions coming out of some of our coal-fired power stations.

MR HARGREAVES: So you are actually talking about hypothecation of those? You would make a sort of profit on it, as it were, and then hypothecate back into the rural aspects?

Dr Schooneveldt: Yes.

MR HARGREAVES: You couldn't just stick it into consolidated revenue and be done with it?

Dr Schooneveldt: I am not seeing that as a government revenue source; I am seeing that as an income stream for land managers to be able to do much more sustainable things. Just as a farmer can grow a crop and, after costs, that is his income, he can grow carbon. In a grazing situation, a farmer can achieve up to 10 tonnes per hectare per year. At \$20 a tonne, that becomes a significant contribution. Even in a cropping situation, a farmer might achieve around two to five tonnes of carbon per hectare per year. This is potentially a very large income stream for local regional people. So that is an example of what we could be doing.

MR HARGREAVES: What you are saying, if I heard you correctly, is that the money you get from that income stream has to be hypothecated to the rural industry or the environmental industry, shall we say, and not into the city, not straight into consolidated revenue, but into projects which enhance that same revolving revenue stream.

Dr Schooneveldt: Exactly. I would go one step further. There are reasons why this is not happening. It has to do with doubts about the science. So the research establishments are saying, "Let's solve those doubts; give me \$30 million or \$40 million and I'll prove it and come up with a system so that that carbon is collectively owned and then we will manage it from Sydney or Melbourne," which is in the opposite direction to what we want to go.

THE CHAIR: I want to pick up on some of these issues. One is around waste, waste processing and production of energy. You talk about this on page 5 of your submission. Could you talk us through what we should be doing in this area? I am also interested in that notion of taking waste from outside the region into the ACT. What can currently be done with waste and what technologies are you aware of that might be available or are coming in the future?

Dr Schooneveldt: I am not sure what you mean by taking waste from outside the ACT.

THE CHAIR: I think you talked about our taking waste from Sydney, that we could take Sydney's waste, I believe you said in your submission. You say that the fact Sydney's waste is transported free of charge into the region should be a valuable resource. You do talk about using that in a range of technologies available around biofuels and so forth. Could you just talk us through that a little?

Dr Schooneveldt: Yes. I am not talking about waste all mixed up into one sort of undigestible lump. I am saying take the green waste that, for example, is coming out of Sydney and putrescible waste. Are you familiar with the Groundswell project that is being run with Queanbeyan, Goulburn and shires around here? They take putrescible waste from the household, compost it using a micro-organism that produces compost very quickly, and put that back on the farm. That system works really well. It was trialled in Queanbeyan with Gerry Gillespie's group. It is being

trialled in Goulburn and more widely.

The key is that households are able to take their putrescible waste from the kitchen and put it into a cornstarch bag which does not off-gas—it does not smell. Each bag is numbered. They are collected regularly as part of the normal organic stream. Every week, I think, they take a sample of bags to make sure they are clean. Each bag is numbered; so whoever has a clean bag from that sample gets a prize. That is a real incentive for people to keep them clean. You do not need a big, complicated bureaucratic process to manage it, nor do you need a complicated system for separating it all out or for quality control. It can all be done by householders managing their own waste with a reward system like that.

With Sydney at the moment, our sewage is being pumped out to sea. That is totally unsustainable. Our putrescible waste is going into landfill just next-door to Lake George. We can take all of that and use that for recycling back in as nutrients for soil amendments and things of that sort. We can do the same thing with wood and plastics but on a very large scale. We can manage them with local industries. Visy, for example, down at Tumut takes waste wood from other sources and uses that for energy sources.

MR HARGREAVES: One of the problems we experienced a couple of years ago around that theory, which is a good theory when it works, was the absence of markets to take the stuff because of what could be better described as an oversupply in the marketplace, particularly locally. We were finding trouble with compost. There was not enough in the marketplace here. Glass, we were having difficulty finding marketplaces outside the territory for that. Even though we had the processes in place to do this, without the markets all it does is end up as a build-up. Do you have a view on that and a solution?

Dr Schooneveldt: I have a view. I am not sure how good the solution is, but the view is that a lot of the existing, established sources of iron, steel, wood—whatever—have a vested interest in maintaining the status quo in that linear extractive model. What we have to do is find a way of taking away the perverse subsidies that these industries have and give support to these fledgling new industries which potentially can take all that paper and that waste material and turn it into useful product by recycling. It is the economic system and the way the tax system works and tax breaks work that is the source of our problem.

We were looking at biodiesel production and looking at what we could do in this region producing biodiesel—not from plants because we need them for food, but using algae and using nutrients from the waste stream to grow algae, harvesting the fats from the algae, turning that into biodiesel. What is left over is all the nutrients, which then go back into the soil again. So we could make our own fuel.

The tax structure for making biodiesel is more severe than what it is for ordinary diesel. So we have a competitive disadvantage. Even the coal industry at the moment is looking at how they can sequester the carbon directly from burning coal by growing algae and again making diesel. Again, it is the tax structure and the incentives that are a disincentive for doing that.

MR HARGREAVES: I still am not quite clear on the market challenge. Using that example is great. We can then sell the biodiesel, which is great, because it is actually rotten. But the waste of it—we end up with a build-up if we do not have a market to take that. How do we attack that?

Dr Schooneveldt: If we design this system correctly there should be no waste. The steel can be used and reused endlessly. Aluminium can be used and reused endlessly. If we build buildings so that they can be deconstructed as well as constructed and the materials reused, we could change the shape and design of buildings. So it is these concepts that I guess I was referring to in my submission. It is not to say that we should stop development. What we should do is recycle that developmental process so that it will employ more people and keep that process going. But while we have that linear extractive model, which is basically saying that we need growth to continue indefinitely, we are unsustainable and we are going to find some sort of collapse coming at the end of that process unless we change it.

MR SESELJA: On the bottom of page 2 of your submission you say that what is less understood is that carrying capacity itself is not a limiting factor. You say that it is possible to increase the carrying capacity of a region through strategic natural resource management, increasing biodiversity and boosting ecosystem services. Can you explain in fairly simple terms for the committee what would be some of the concrete ways that we could actually do that—increase the carrying capacity through strategic natural resource management and how we could increase biodiversity?

Dr Schooneveldt: I have mentioned a few of them already—food production is clearly something we could do within the region. We do a lot of it now. We export, but we do not do that sustainably, because we depend upon chemical fertilisers and things coming in. If we could use organic recycling techniques, that would be sustainable, and we could increase the carrying capacity of our region.

If we take advantage of our water situation, the region has ample water. We are able to recycle and treat that water and reuse it. I am working with a group in Melbourne at the moment where we are taking industrial effluent from factories, which is pretty nasty stuff, putting it into what we call a biodome—it is a type of glasshouse—and growing plants. These are tropical grasses that grow very well in Victoria in the cold climate in a glasshouse. The plants are taking out the nutrients, breaking down the pollutants and then recycling the water back into the factory for cleaning and washing and so on.

The grasses are harvested and fed to stock, which then put those nutrients back on the paddock. The roots and the root systems are composted and turned into a fertiliser to put that back into the soil. So you have a whole system that is sustainable if you have such a closed loop system.

With this region having such a huge agricultural base, we are part of the Murray-Darling Basin, and we produce a heck of a lot of food, including rice and potatoes and apples, and it goes on and on. We are very sustainable in our food production, if we can get that nutrient cycle back into operation. We can do it both through collecting from households and through industrial processes, like the one I have just mentioned in Castlemaine.

We are doing a similar thing in Yass where the woolgrowers have been sending their wool to China to be washed and scoured, and with it goes about 20 to 30 per cent of dust and nutrients and grass seeds and all that, which goes to China, causing pollution problems for them, but that is valuable stuff that we want to keep here, thank you. If we can clean the wool here using this system, we can then recycle the water, use it, clean the wool, use the same water for cleaning the wool endlessly and we can then manufacture the woollen garments here.

At the moment, a group of woolgrowers in Yass have set up a new woollen mill to develop and spin their own wool, make their own garments. We are adding a biodome structure to that. It is small scale, probably about 20 or so woolgrowers together, but of 11 steps that are involved in the international strategy we have now, all taking a little margin and a profit, we have reduced it down to three. So we have virtually integrated the whole lot, and we are looking at making that a sustainable model for woolgrowers around other parts of the country.

MR SESELJA: You said earlier that you could relatively easily achieve carbon neutrality. I know you touched on it, but it is not quite clear to me exactly what that would involve. What would that physically involve for us as a region to achieve carbon neutrality? You talked about farming practices and the like, but what kind of significant changes would we have to make in order to make that a reality?

Dr Schooneveldt: The changes are not all that significant, but it involves managing our vegetation differently to what we do now—in other words, now we clear in the wrong areas, we need to plant more trees, we need to plant them in the right places. We tend to think our problem is lack of rainfall when we have a drought. It is actually desiccation. The drying out of our soils is the real problem. If we can reduce desiccation, we can increase our growing periods quite substantially. So planting trees strategically to act as shelter belts and protect our soils and our grain producing areas and our pastures is a good way of doing it.

Now, those trees and that vegetation sequester as carbon. If you think of carbon dioxide going up there as an indicator or trigger—the trigger is climate change—sequestering carbon into the soil as humates and glomalin and these long-lived molecules, that is the way to balance out the emissions.

Sequestering carbon was not in the Kyoto protocol because it was too complicated and Europe had plenty of carbon anyway. But we in Australia are in an excellent position to build that sort of carbon, and we need vegetation to do it, because it is only plants that take it out of the air on a large scale. We can do that globally.

If you ever get a chance to have a look at what is happening in the Sahel, which is in the south-east Sahara, right across the width of Africa, it is going green. There have been changes in the social dynamics there. Mali has had civil wars, people have stopped overstocking. Rainfall has increased significantly and vegetation is springing back all over the place. We are finding in Australia, too, that where your vegetation is being managed well, your rainfall increases. So I can give you examples around Quilpie where there has been a 60 per cent increase in rainfall. If you go west of Atherton and look at that area, rainfall is increasing. Rainfall in Northern Australia

generally, of course, with climate change, seems to be increasing, whereas in the south we are decreasing in rainfall. But what China is doing up on the edge of the Gobi Desert with planting trees is actually creating rainfall.

By managing vegetation, we are not only getting the benefit of sequestering carbon and dollars coming into the local regional economy, but we are also affecting microclimates at a local level. It is a very powerful strategy if we can get this right. In our region, with the amount of vegetation we have already and the potential for further developing those techniques, we are in a very good position.

MR SESELJA: Just as a quick follow-up on that, if you talk about the amount of vegetation that we have at the moment that puts us in a good position, is it possible to measure how far we are now away from being carbon neutral, given the vegetation we have?

Dr Schooneveldt: We are probably not getting there, because of our emissions from urban areas like Canberra, which are too high. But if we managed the region well, we can sequester all of that easily. A stable ecosystem—for example, take the alpine areas in this region—is basically carbon neutral: carbon in equals carbon out. A well-run region is carbon neutral. Now, to the extent that we are degrading our soils, we are chopping down trees—we are still doing that, chipping wood down on the coast and so on—we are emitting more than what we are sequestering. Potentially, we can sequester all of it and more, because we have got such a vast area.

MR SESELJA: Whilst this inquiry is looking at the region, as policy makers we have limited influence on what happens outside the borders of the ACT. Is it possible to do what you are suggesting within the borders of the ACT?

Dr Schooneveldt: It is possible to do it now. We could conceivably as a region get together and we could set up our own marketing system for carbon and trade on the international market. We can do it now, without the commonwealth and without any state government involvement. There is a market already there. I would not recommend that we do that, but we could. So we could start now, and the region could start now, and groups of farmers are already doing that. They are voting with their feet and are sequestering carbon and looking at trading that on the international market.

But the money they can get from the international market is pretty small and it is not very stable. It is very uncertain. If we have a system for sequestering carbon and recognising those credits, we are able to sequester and get a good price for it, because it would be defined in legislation basically how that sequestration credit is validated. Validation is the key, because you are not going to buy carbon sequestered from anywhere unless you are quite sure that it is going to be around and it is really there.

But humates—that is the long, stable, big molecules in the soil—are certain to be there for 100 years and some of them 1,000 years. So if you can improve the quantity of humates you have in your soil, you can demonstrate to anybody that that is there. Now, so long as from year to year those humates remain, you have sequestered that carbon and you are managing that property in accordance with that regime.

It should be easy to measure locally. We do not need a great bureaucracy to do it. We

can do it. We can do it simply through using normal audit processes, like we have with financial affairs. You have an independent auditor, your local accounting office does it. Well, here your local accounting office would do an independent assessment of the humates in your soil. So it is a very simple process; one that simply requires recognition of this as an offset for the emissions.

MR HARGREAVES: Are you saying that we absolutely must do this thing as part of the region and that the ACT cannot do it by itself?

Dr Schooneveldt: I think there is an opportunity to do it. I think it will happen anyway, because there is really no other option globally to sequester carbon on the scale needed. All the other options are pie in the sky. It will happen. If we are ahead of the game and moving quickly in this direction, we will have a lot of the benefits that flow from that. We are in a very strong position, as I say, as a region, to do it. Another region that is very strong is north Queensland—and a few other areas where we can do a lot. We can do a lot up in the Kimberley as well, but we have to do battle with the mining industry up there.

MS HUNTER: What sorts of steps would we need to take? If we were to be ahead of the game, what should we be doing now?

Dr Schooneveldt: If we are talking about local government, they should be looking hard at their vegetation management strategies and putting in place incentives to grow more trees, to be more sustainable. Planning rules should be much more sensitive to vegetation management. It is not a case of saving this tree or saving that tree; it is getting the balance right across a local government area or the ACT. It is really in our planning that we can do the most to get this sequestration process going and maintained.

A second thing we can do is this. If we turn all our suburbs into concrete we will get maximum run-off and lots of water going into our rivers but we will have no ecosystem services coming out of the urban areas. If we have smaller footprints of our buildings so that there are bigger gardens and bigger areas for ecosystem services, we can be much more sustainable as a city. I did some work on this a few years ago, on the ACT. As far as materials and energy are concerned, it does not matter much whether we go for more sprawl or we go for more infill, but it matters a heck of a lot for the ecosystem services. If we have too much infill, too much compaction, so that we do not have the ecosystem services, we have to get them from somewhere else. The EPBC Act requires you to buy offsets somewhere else. So if we want to develop a paddock here, we have to find a paddock somewhere else. We can integrate all that into our own local planning so that we have enough space left between our buildings to be the “garden city” that Canberra has always seen itself as.

MR RATTENBURY: Just picking up on the sequestration issues, am I correct that there are not actually agreed accounting rules yet? Is that part of the barrier that you were talking about?

Dr Schooneveldt: Sorry, I missed that.

MR RATTENBURY: There are no agreed accounting rules for the carbon

sequestration, are there?

Dr Schooneveldt: There are now, under the Marrakech round, but Australia has not signed up to them. We have signed up to Kyoto, so our big emissions are all covered, but how we can do this soil stuff is not yet in our system. The commonwealth has legislation drafted before it now under the carbon farming initiative, the CFI, which includes this as a minor part of the commonwealth strategy. It can be built up to be a much stronger component.

MR RATTENBURY: The essential premise of your submission, as I understood it, was that, if you close the loop, to an extent, then that removes a lot of the limits.

Dr Schooneveldt: Yes.

MR RATTENBURY: You say that carrying capacity is not in itself a limiting factor. Are there any limits that you do see? It sounds like a very positive story. Do you see any constraints?

Dr Schooneveldt: There are very definitely constraints. It is solar energy; it is the amount of nutrients available to do this farming stuff that we are talking about. If this was a desert area, we would have very much less opportunity than being, as we are, open woodland. If we were a tropical area, it would be different again. There are constraints.

It might help the committee if I give you a little anecdote. You may be familiar with Fraser Island, which is a pure sand island. It supports a lush rainforest. Some colleagues of mine were wondering how this works, because the nutrients are not in the soil. What is happening? One put an isotope of phosphorus on the sand—scraped away the leaf litter and put the isotope there—and then got his climbing gear to see how long it would take that isotope of phosphorus to get high up into the canopy. I ask horticulturists and farmers this question: how long do they think it takes? They say: “Oh, it has to break down. Some months.” Some people even say a year. The answer is 30 minutes.

In other words, the inter-relationship between the fungi in that sand and the soil is cycling nutrients at that rate. If you look at a coral reef system, it is cycling nutrients. Everything is living off everything else. If we have a really diverse economy—let us call it a rainforest economy—that has different businesses feeding off each other in an integrated whole, the rate of cycling of the money, which is a bit like the nutrients, through that system is going to employ a lot of people and keep moving those nutrients and those materials more dramatically and more dynamically. Who knows what the limit is? I guess that is what I am saying.

But we can progressively work towards an economy that has that kind of concept at the back of it: an ecologically rich, diverse system, of which humans are a part—not one we control and manage, but we are part of it. Then we have got a vision for a different way of doing things.

MR RATTENBURY: A number of the submissions to this inquiry touch on the issue of population as a factor. I note your observations that to simply focus on a number is

unhelpful, and that is not the question I want to ask. But how do you see population as part of this equation? Are you able to make any observations?

Dr Schooneveldt: If I could draw a graph in the air—we see our carrying capacities going down as our environment degrades. As there is erosion, soil nutrient loss and so on, it goes down. And our population is growing. At the point of intersection of those two lines, that is where we are at. If I can take that degrading line and ratchet it up, our potential carrying capacity goes up. It is just by plotting those two lines and measuring the point of intersection that we have a rational basis for determining what our capacity is. We put this to our immigration minister a few years ago; this was Ruddock. He saw the benefit of that and then commissioned CSIRO to come up with a model which would help them do that. They have not applied that model, but it is something that—in terms of determining carrying capacity, I think we use an ecological definition and the target of where those two lines intersect.

MR RATTENBURY: Just briefly, on the last page of your submission, under infrastructure issues, you talk about the adequacy of transport in the region. I just wondered if you had any expansionary comments on that around what you see as some of the solutions.

Dr Schooneveldt: I live in the little village of Binalong, and I am shocked to see the number of people who, even from Young, have come to Canberra to work—and the number of people from the coast who come to Canberra to work. Canberra is a natural economic hub for the region. People come to invest and so on. They are moving in and out of the region all the time. We have to start thinking hard about a light rail system or something servicing our region.

There is real competition for planning dollars. Yass would love to be able to develop on the border outside Canberra, but it does not have water. Infrastructure with water—we are not distributing the water evenly across the region. We are saying: “This is the boundary for the ACT. Goulburn, you can’t have any of our water. Yass, you can’t have any of our water.” And so on.

If we can get the infrastructure arrangements right, the small villages around the ACT that are now too small to function sustainably can grow a little bit more and take some pressure off the bigger cities, and we can get a more balanced region with small villages, some reasonable towns and a city like Canberra in the middle. The evidence is that if cities become bigger than about a million, they become quite dysfunctional—very expensive. At two million they become very expensive. If you look at Australia, you see that the bigger the city the higher the rates—the more expensive to manage, the more difficult to manage. A million is a good number for a city. For a provincial town, 100,000 is a good number. For a village, it is 100 to 200. People know each other and you have that village feeling.

Those sorts of abstract numbers give you an idea of where we should be looking at getting a balance. Putting everything into Canberra and nothing into the region is just creating further problems. It is a planning problem and we need the right infrastructure to link these communities, particularly water, energy and transport.

THE CHAIR: I have one last question and that was going back to the environmental

potential for recycling. But also I guess I want to focus more on the economic opportunity. You talk about recycling in the ACT and benefits, so could you give us some more detail about the potential for the ACT to benefit from recycling, environmentally and economically?

Dr Schooneveldt: The environmental benefit, particularly with the organic material, I have covered already, haven't I? I presume you are happy with that.

THE CHAIR: Yes.

Dr Schooneveldt: With the other materials, like building materials—we dismantle a lot of buildings—we need to encourage the design of buildings that can be dismantled and reconstructed in different ways, and that can be done through our planning rules and building standards.

THE CHAIR: You did touch on that before. I guess there are some who would put the argument that really there is not a lot of economic benefit from things like recycling of food waste—for instance, making compost; there is an oversupply of compost around the country in other regions, in other councils, and therefore it is just not something that is viable and we should not pursue it. Have you got a comment on that?

Dr Schooneveldt: I agree that there is an oversupply of compost and the reason is that most farmers are using chemical fertilisers—very expensive—and that cannot continue. Nitrogenous fertilisers require natural gas to be manufactured. Incidentally, on this recycling thing, countries like Japan are awash with nitrogen. They have serious nitrogenous problems—nitrification of their waterways, ground water and everywhere. If we can sell our food to them, can they grow stock feed taking up their excess nitrogen, export this back to Australia for drought feed, the cattle eat it and it goes back into our soil? It has to be thought through as a whole-system change, not just the local system.

Getting back to the ACT and what it can do immediately, it can introduce a putrescible waste stream. It can provide support for farmers that use it. The Groundswell project that I have mentioned is putting the product on horticultural things—grapes and things like that—with enormous success, and sequestering a lot of carbon in the process. The economics will change as the benefits of carbon sequestration and things come in. At the moment the existing established fertiliser companies and chemical companies have the upper hand.

I might add that there are spin-off benefits to health and so on because the food growing under these systems is more nutritious and less likely to cause ill health if we can get those sorts of systems running. At the moment we have to deal with the vested interests that are maintaining the industrial agricultural line. Their argument is that we cannot feed the world unless we go down the industrial agricultural route. I argue the exact opposite: the only way to feed the world is through this natural process and we cannot afford not to go down that route.

THE CHAIR: Through your work do you have engagement with a lot of farmers and farmers in the region and, if you do, what is their view on the approach you are

suggesting?

Dr Schooneveldt: I work directly with about 50 or so farmers through a group called Healthy Soils Australia, which I helped to set up, and those farmers are doing the things that I am talking about but it is not yet officially recognised. These farmers are based in New South Wales, in Western Australia, and in other parts of the country. They are building the carbon. That is how I know that those numbers that I have given you before are right. They are actually doing it. It is being independently verified by laboratories in other parts of the country and we know that can be done. We need now a system that recognises that and to encourage other farmers to do it. Seventy per cent of the continent of Australia is managed by farmers and unless we have them on side in doing this sort of thing it is not going to happen. At the moment they are sceptical. They are being told they will have to meet the cost of emissions and they are not getting the benefit of sequestration and they are very nervous about the whole thing. If they see the potential, which these small groups we are working with now see, they will be grabbing this opportunity. There are a lot of other benefits.

THE CHAIR: So that is a potential through income stream but it is also a potential saving in buying fertilisers?

Dr Schooneveldt: Yes.

THE CHAIR: Thank you very much, Dr Schooneveldt, for your submission and your evidence this afternoon. We will be sending out a draft transcript. If you would like to correct any errors on that and send that back in, that would be very helpful.

Dr Schooneveldt: Thank you. There was an error in my submission. I think I said towards the end that Switzerland had an area of 41.3 square kilometres. But there are two noughts missing there: it is 41,300 square kilometres. So apologies for that.

THE CHAIR: Thank you for that correction.

HUGHES, MS SHEILA, ACT Chapter President, Australian Institute of Architects
OVERTON, MR PETER, Chair of ACT Chapter Sustainability Committee,
Australian Institute of Architects

THE CHAIR: Good afternoon and welcome to the Standing Committee on Climate Change, Environment and Water inquiry into the ecological capacity of the ACT and region. I do need to draw your attention to the privilege statement. Could you confirm that you have read it and understand its contents?

Ms Hughes: Yes, I have.

Mr Overton: Yes.

THE CHAIR: Would one or both of you like to make an opening statement?

Ms Hughes: Yes, thank you. We will both make comments. Really, we are focusing on one of the key criteria, one of your terms of reference, which is the effective methods for reducing ecological footprint in terms of measurement. Determination of the factors that contribute to that footprint and the ways of balancing them is an area of research that is not within the remit of the institute, although we do contribute to research groups that look at some of that work.

The key area where the institute thinks there is an opportunity to reduce the ACT's ecological footprint is really through the community, including industry and our members, through their practice working to transform the built environment and our ecological footprint. One of the things that we certainly would be encouraging as part of development of understanding of the ecological carrying capacity of the ACT would be the development of information for the government from the public service. That would give decision makers a background of information about the relationships and models that give information about relationships as to the outcomes of different actions, so that as things change over time there is an opportunity to set some targets that you can measure against what improvements there could be.

One recent paper that I would cite would be the *Our cities* discussion paper and background report. There is a lot of commentary about the fact that achieving reductions in ecological impact in any of our cities at the moment is really challenged by high consumption patterns and city forms which are dependent on motor vehicle transport. There are a whole lot of other factors, as I am sure you will know from the various reports that have been done, that have impacted on those particular outcomes. Certainly, the high consumption patterns have a major impact on the ecological footprint of different cities. We also note that that is consistent with research that has been presented to the institute from various sources, some of which targets the ACT's footprint at about 8.5 global hectares. So it is well above the carrying capacity that the earth can sustain.

One of the positive things to note, though—and it goes to one of the potentials for transformation—is that the ACT has a track record of being quite a high achiever in developing green-star buildings. We have the first green-star-rated building. We have the first six-star refurbishment building. And we have an industry and a group of

clients, both in the commonwealth government and in the ACT, for example the education department, who are striving to get better performance out of their buildings. That is fundamental to actually achieving change, and that was one of the benefits of introducing the rating system. It gave people a set of targets that they could work to, and created an atmosphere where there was an opportunity for change. Where we are now, though, is that we are needing to move to a greater level of sophistication and actually getting the metrics around the outcomes.

The way that we develop a city, the environmental impact and the way we can place targets and measure those targets on both developments and precincts, is really important. That is the intent that underpins a lot of the stuff we see in our planning system, but our planning system at the moment does not express that in such a way that it is actually being realised. It is not realised in terms of there being a shared vision for what that outcome should be. It is not realised in terms of the codes really providing a coherent framework for achieving some of those outcomes. That sort of work needs some really good, integrated thinking. But the intent is definitely there, and it sits in a number of documents.

One of the things that we see as having real potential here is that the ACT, as a client and as a developer, has a strong role to play in setting performance targets, particularly in the residential building development realm, in the multi-unit residential building realm and in the surrounding public realm. There was a competition announced this morning about the Northbourne precinct redevelopment. There are obviously key heritage issues there, but there are also opportunities to develop housing forms that provide a range of choice, a range of access and yet achieve strong environmental outcomes. In areas like Molonglo, there is certainly a drive to achieve more sustainable outcomes. We would support that any development that does go beyond the existing city boundaries should be exceptionally efficient, given the implications of that.

The last thing I want to say before I hand over to Peter, who will talk a lot more about the whole issue of how we measure and how we assess these things, is that it is not just the buildings in the built form; it is also the infrastructure. And it is not just roads and transport. With roads and transport, as we have said in previous submissions, it is absolutely critical that the transport is interlinked with development.

We would like to flag and repeat something we have said before: we also see the green infrastructure of the city, the open green spaces, the landscape, as being really important to how the city functions at many levels, in terms of both people's health and the simple performance of the environment. Research conducted by the CSIRO gave a clear indication of the development of our suburbs in different periods, and particularly the green infrastructure of our suburbs from different periods. You can regard Canberra as a kind of ongoing experiment in urban development. It has been a test bed for a long time. Those different suburbs have had quite different performances in terms of the thermal heat generated and in terms of the kinds of amenity they generate. We have something we can look at, and it has been looked at, as a source of information here.

The other thing I note is that at Griffith University they are starting to do some really good thinking about how important the provision of green infrastructure is,

particularly in higher density developments where your green infrastructure becomes even more important, both in terms of the kind of setting it provides for that development and in terms of the types of social spaces it provides. We can see here in Canberra, and we would be complimentary of this initiative, the wetlands in the inner north, where there is the opportunity to really see a green landscape being used in a way which gives multiple benefits. It has the potential to provide biodiversity, it has the potential to improve the way that our waterways function, as well as providing a different kind of outdoor environment for exploration by children and others. I think that cannot be overstated. There is a lot of research, again, talking about the impact of the environment on the social connectiveness of people and the kind of experience they had growing up.

Before I hand over to Peter, I will finish off by saying that the institute does see containment of urban sprawl in areas where there is not really a significant population growth and where there are not already quite significant densities, and the transformation of our cities to produce environments that are more functional and provide well for social diversity whilst being sustainable, as a really key objective. Canberra is a city that people enjoy living in. It is an environment that evolves. As its environment evolves, the maintenance of a distinctive sense of place is really important. Also, both the built form and the public realm provide not only an attractive environment but also one that really supports different ways of living that reduce our impact on the environment. But it is only part of the equation.

Mr Overton: As Sheila mentioned, I will be focusing these closing remarks on the specific aspects of measurement of building performance, with particular reference to the energy rating scheme that the ACT has been operating now since the mid-1990s, and some new challenges that are being presented as time goes by. As that system evolves, its structure has to cope with acquainting the public to the idea of getting the best out of it for their own buildings, and also trying to raise the stringency of the system when performance levels are actually rising, and are expected to rise, as they are at the moment, in quite a rapid fashion. We are seeing incremental changes in the standards, on average, about every three years. So I have reduced what is a fairly involved subject, in an attempt to simplify this in a five-minute talk, down to four basic summary points.

The first of those relates to a change which essentially, for the ACT, happened in 2006 with the adoption of the building code of Australia as the mechanism to assess the energy use of buildings rather than the older mechanism, which was linked to development approval assessment using the original simulation program based on NatHERS. That was quite a major change. As you would all be aware, the ACT was a frontrunner in getting into this business. It began its own ACTHERS in 1995. In 1998, I think it was, it introduced the beginnings of the mandatory disclosure process, which is only just now being adopted, or came into use federally as of last December. So there has been quite a long period of development.

While the rating systems for both commercial and residential buildings are quite well developed, using the national construction code for the rating mechanism has led to some unforeseen results which present challenges with respect to moving the system forward. By way of an example, in the ACT, as in most other states, assessment of building energy efficiency is not required until quite late in the construction process.

That is because of the simple shift from a DA development assessment point through to the building approval point, which is immediately prior to when actual construction can commence. So that was an important change, and some repercussions from that are only at this point beginning to be realised.

The national construction code has been developed with emphasis on quantitative construction issues. It is now taking on an extended role as a guide to more design-related issues since the energy rating standards have been incorporated into that document.

Two separate systems also exist for assessment in the BCA as it stands. One of those is essentially a tick-box system, so it is purely tabular and involves ticking off against pre-set criteria. The other system, which runs alongside that first system, is a much more comprehensive one involving predictive simulation. At the moment there are aspects of those two quite different systems which are not really adequately reconciled in the way that we operate the rating systems.

The second point that we are making concerns the actual measurement system itself. We have all got very well used to stars and various kinds of widgets over the past five to 10 or even 15 years. They are applied to many different circumstances and situations—everything from whole buildings, different types of buildings, appliances. Such a wide range of different goods and services can all have energy-related star ratings, sustainability ratings and performance ratings.

While those have served a very valuable purpose in terms of building public awareness, particularly in terms of making basic comparisons from one product to another, when they are applied to complicated systems like buildings they lead to a certain level of abstraction which does not always produce the expected outcomes. I think we are now at a point where that needs some further thinking. It needs quite a bit of further work to try and improve the understanding of how buildings are actually performing in a sustainability sense from this point on.

What I have suggested here is that, in addition to the star rating systems that we have all become used to, a very important addition to that would be to add information which is, in fact, already available from all of the common simulation systems that are used for rating purposes, to which actually predicts real energy use, rather than simply stating a performance by way of a number of stars.

All of the simulation packages that are used can actually produce real-life energy use figures that are generally expressed in either kilowatt hours per unit of area or megajoules per unit of area. At the moment the general public and the building industry themselves are not terribly well acquainted with how to interpret that information. So there is certainly work that needs to be done there in being able to translate the stars, as well as an understanding of the public and the industry which goes to how much energy is being produced by a facility in real terms.

The third point relates to the certification process itself. The certifiers have a very hard job on their hands at the moment. Since 2006 they have really had to take on an entirely different area of responsibility in what they have been doing. Prior to that point, while their job has certainly always been very complex, it tended to focus on

the more purely quantitative constructional issues and did not stray very far into more design-related ones.

Since the introduction of the energy rating standards into the BCA, much more, I guess, fine grain decisions, more complex decisions, have had to be made concerning matters that more directly relate to design of buildings. Things that are not quite so visible about the performance of a building that relate to the ratings—hidden aspects like insulation and the construction of windows, for instance—have not been brought along with a logical system of coding which enables the certifiers to understand what they are looking at. I think that is a very critical point to take on board. It is as if we sort of have developed expectations for one part of the system—that dealing with energy and water efficiency—without providing the necessary information for the certifiers to give an adequate judgement on what they are supposed to be doing.

There is also another related issue there—and that is, when a construction certificate is issued, there are set times when checks have to be done, and that is spelled out in the construction certificate documentation. Another problem that we have at the moment is that the sorts of things that need to be assessed for building energy efficiency do not necessarily fit within the time frames that have traditionally been used for checking. They have tended to relate mostly to building services and building construction and safety issues. So the checks at the moment tend not to be done in the right time frame to actually give an adequate surveillance of inclusions like insulation and the glazing characteristics—many of the things that have a critical effect on the sustainability performance of buildings.

The last point relates to, I guess you would say, how much we can believe from the ratings that are done. We go to a lot of effort at the moment to make predictions in terms of how well we think buildings are going to operate, how much energy they are going to use, how much water they are going to use and so on. That then is assessed prior to the construction of the building at the construction certificate stage. Those aims are assessed against predetermined standards to decide whether the building is good enough to go through to the construction stage.

What tends to be missing in the process at the moment is that downstream of that point with deficiencies in the way we are running the construction certification system. For a variety of reasons, what we are often finding is that the built outcome does not actually match the predicted outcome at the design stage. So there is a bit of a disjunction there. That can really be quite serious. It is also having a very undesirable effect in reducing faith that both the public and the building industry have in the operation of the rating systems. That is certainly what we do not need if we want the system to adequately progress.

Ms Hughes: Obviously the focus we have here is on the efficiency of the built environment and particularly the opportunities that buildings present—that in the design and development of buildings we will actually have less ecological impact than some of the previous buildings which have not had insulation and which have relied very heavily on fossil fuels to heat and cool.

The key, I guess, from the institute's point of view is that there need to be, across a whole range of scales, effective measures by which we can set targets, where we can

really start to identify where we are achieving performance and where the performance we think we are getting might be failing. The classic example is that the metrics on recycling in any number of cities are very high—Canberra is very high. The metrics on recycling do not cover the increasing consumption. So the target, the actual metric of what we are measuring, is not necessarily telling us the right answer. That is a simple example.

There are other examples around that sort of issue. One of the things that we are saying—and we are hearing it from other elements of the industry too—is that it is about the actual performance of buildings, but the other thing that is really important is the understanding of people as to how the environment can perform well in support of how they want to live and still be very energy efficient. That also comes down to having an understanding of how the operation of a building affects its function. There is a whole education element in terms of taking the community along in understanding the ecological footprint.

Many members of our community would have a fairly sophisticated understanding of some of those very fundamental passive benefits that you can have in how you operate buildings, but others do not. Particularly when we get into some of the more commercial buildings, the way that they operate can make or break whether in fact the system that has been designed into them actually works well. There is a correlation between, firstly, does the actual building fabric perform in the way that we expect it to and, secondly, do people actually understand how to operate the building to get the fabric to perform in the way we want it to? As we move forward in developing the city and effectively refitting some areas of our city, that kind of sophistication of understanding becomes really important—as it does in terms of how the different systems interrelate to get us more sustainable outcomes. I think that is all that we had to say.

THE CHAIR: Thank you. I wanted to start off by saying that, although this inquiry is quite broad and it is not necessarily about—for instance in the area of population—finding a particular magic number or whatever, what we do know is that the projected population for the next so many decades could take us up to around half a million people, which really would be just natural increases. It is not necessarily around people coming into the city from other places. What I wanted to know, from a planning point of view, is: how does the size of that population affect how Canberra should be planned into the future?

Ms Hughes: This is where having background information becomes really important in terms of what you need to do when trying to move forward into the future. Much like the speaker before us, I believe that the population number itself is not what is critical; it is how we house that population, how that population lives and the kind of impact that population has on the environment. That is not predetermined. That is something, that population and what we do, that has a capacity to impact.

Going up to that sort of population number, if you look at the density of the city, we believe that can be accommodated without necessarily expanding the city in the extreme. That has implications in terms of the energy used for transport, the energy used for providing services. This is something that we have spoken about before at a number of inquiries. What that means is that what we do to house that population

and, indeed, how we provide an economy that provides prosperity for that population becomes a much more complex issue than simply being about the environment. It has to be about how we live.

The built environment is part of that equation. Buildings become really important in terms of where you can get some benefits from having more active movement modes through the city where you have opportunities for people to have different ways of providing for themselves in different environments. That can contribute to how the overall population impacts.

But it is not simply about the environment. It is about how people choose to live and how the economy is developed to be prosperous in that context. The research that has been presented to the institute has highlighted that it is really the whole consumption pattern around the economy that is one of the things that contribute to the degree of impact that we have.

So one of the real challenges is: how do you start to develop opportunities that are not so consumption based? That is a much broader question than something that we would have any answers to. It is a question that really involves the whole community in thinking about the future.

THE CHAIR: You spoke about the importance for the city now but particularly into the future around green infrastructure and the importance of maintaining that, for a range of reasons. Could you talk a little about that relationship to a higher density city? You did make some mention of a study that was being done on suburbs over the years around vegetation and, I suppose, microclimate and things. Could you talk a little more about those issues?

Ms Hughes: One of the things becoming really clear is that, as we get to increased areas of density within cities, the quality and nature of the public open space, the green space, becomes really important. That green space tends to be squeezed out by development as you move into high densities. I guess one of the opportunities that Canberra has, as a city which has a very strong landscape tradition, is to look quite carefully at how that balance is struck in terms of the balance between what is effective, good, open space that provides a number of different uses for the community and for the environment and opportunities that we have through some of our less well maintained and less developed areas to provide for some additional development within inner city areas.

One of the issues around provision of open green space within an environment like Canberra, I think, is particularly heightened by its tradition. It is an environment which has an aesthetic appeal purely because it has that landscape environment and a recreational activity base that goes with that. I think it is important, in looking at future development of the city, that we consider how the really diverse ranges and ways that landscape gets used are built into areas where we have higher intensity development.

The uses that that landscape has for us and for the environment include issues such as biodiversity, providing a range of environments for different kinds of activities, including passive recreation, active recreation, exploratory play for children which is

close to environments and places for people to go on a recreational basis if they are living in apartments where they, typically, have balconies. You see it in many cities where people use parks very actively, much more so than you would necessarily see in Canberra. But what you will also see in a lot of those parks is that they are highly maintained. They reflect the number of people using them in the quality of maintenance.

It is really important for us to think as a city, in moving forward as we do densification, about how we provide the value in the green infrastructure that goes along with those developments. The other thing that is really important is, of course, the actual impact on the way the city functions. There is a real benefit in terms of the heat island and the overall amenity and temperature of the city. That is really quite significant from the green infrastructure perspective.

It is a measurable difference. You can feel it. In sensory terms, you can feel it as you walk through different streetscapes within our city, Canberra. In the older streetscapes which have major, mature trees which are really well maintained or trees which have maintained their body, you have a sense of temperature differential. In an environment where temperatures are increasing, that is actually very important to achieve in an urban environment, that you do have ways of managing the heat build-up from the urban environment.

I was privileged to attend a presentation in Shanghai, which is very intensely urbanised. Because of the speed of development of that city, they have been able to measure the heat increase due to the urban form of change from a more rural environment. The background temperature changes sound small but they are significant. They were able to attribute a degree of change within that city environment to the urban form, through their bureau of meteorology's research. That is really important in a city like Shanghai where they have days of high morbidity due to heat.

We in Canberra, fortunately, very rarely get to that point in the city. It may be something that increases. One of the reasons that there is a real benefit to having a green infrastructure is that it does help moderate the environmental changes, not to mention the fact that it provides biodiversity, greater opportunities for other species to exist in that environment with us. Is that what you were referring to?

THE CHAIR: Yes. Mr Seselja.

MR SESELJA: I just wanted to touch on the issue of urban sprawl which you raised. The institute's position is obviously, as you outlined, very much in favour of density and infill over urban sprawl. How do you see that working in terms of Canberra's growth? I think Canberra is projected to grow at around the one to two per cent mark in terms of population over the next few years, and that is certainly how it has been growing in recent years. Do you see infill covering that amount of population growth? Gungahlin is projected to grow by a lot, and it has room for another 50,000 or 60,000. Molonglo obviously has room for 50,000 to 70,000. Do you see that all of our growth could be achieved through infill, or do you believe that we need to achieve the growth through a mix of growth in Molonglo, Gungahlin and infill sites?

Ms Hughes: I guess from our perspective there are a couple of elements to that. One is that Gungahlin has effectively got the key infrastructure going to it at the minute. So it has a body of key infrastructure that has been invested in, and it has got opportunities effectively within what is the outer zone of the city at the minute for some degree of greenfield development.

The institute certainly would see that there is the opportunity to achieve significant population density within the city itself within the existing city form. We are not great supporters of Molonglo being developed with what we regard as a relatively low population growth. We think that that land is intensely valuable land for the future in terms of its location relative to the three town centres that operate within the city. We certainly see that there are opportunities within the existing city along key transport routes as well as spreading away from some of those key transport routes to increase densities of population. We see that as being beneficial in terms of delivery of services, support of the public transport system to make it work more effectively.

The issue is achieving that change and how changes can be structured to actually be achieved in that space. That is what has proven to be exceptionally difficult to date. I think that goes back partly to needing further clarity about the range of opportunities that might exist in some of the existing suburban areas to have increased population by having it more broadly spread. In a sense, one of the things that make cities like Melbourne work relatively well is that they have relatively low height but relatively intense development around the city centre. It means that they have got a really workable environment where there is a lot of stuff that works through the less formal movement structures and allows for trip training and those sorts of benefits.

MR SESELJA: What sort of policy changes do you think are necessary in order to achieve that? At the moment, we are probably nowhere near the government's own target of fifty-fifty. Presumably, the institute would want to see fifty-fifty or even more towards infill. What do you see as the key policy changes that would be needed to allow us to achieve that?

Ms Hughes: I think one of the things that we are seeing is that there is a large level of distrust in the community about how densification is occurring. I think that could be improved by having better definition of what is actually going to be the end outcome within a zone and defining planning codes to achieve that. While there is a clear intent within the planning codes that there should be a more sustainable environment achieved, it is not actually an intent that is realised in the zone objectives. It does not give a measure of certainty to the community, particularly in RZ2. There is not really a clarity of intent about the outcome. The codes have not been tested to allow for innovation and different kinds of housing types that would allow a range of outcomes to occur that still achieve certain streetscape outcomes and still achieve certain public realm outcomes that give comfort to people within those city areas.

I think that is why we have talked a bit more about the green infrastructure of the city. It is really the public realm we are talking about. There was a quote from a resident of Dickson talking about the fact that there was some development happening there. Despite the fact that there was additional development going into the street, they were not seeing a commensurate upgrade of street infrastructure to do with walking or anything else like that. So we have put in a submission on the draft variations that

came through on the residential codes, saying that we really wanted to see a much clearer definition of what the strategic outcome of the code is which can be a clear guideline to people about what the plan envisages will be an outcome and then tying that to a much simpler but much clearer strategic control system, so that when you look at the controls, there is a clear understanding about what you expect. To put it in terms of behaviour, there would be a clear understanding of what behaviour you expect from a development towards a street in the different zones and what characteristics you would look for within different zones around different kinds of housing.

Also, what are the opportunities within the planning codes as we have them that will let you do different models of development and let you do more community housing because of the way the infrastructure has different kinds of relationships within the development to those anticipated by the code under multi-housing?

So what we are really looking for in that space is a greater level of communication of what are the intended outcomes to the community and then a greater clarity of how those intended outcomes are reflected in the codes. One of the shortfalls, I guess, on that consultation that we really saw was that there was not that statement or the modelling of how the codes would achieve different outcomes.

MR SESELJA: The government has a proposal at the moment to change the way change of use is levied. That obviously has potential impacts in terms of infill. That proposal is still not finalised, though close, it would seem. It is due to start in July. Do you believe that that change to change of use which would see a significant amount more levied for every unit built where there is a change of use will hinder or help the goal of having more infill development in the city?

Ms Hughes: One of the questions is how you make sure that, in applying those sorts of charges or other charges, you do not create a preference for a particular outcome. You have to think about how those charges will affect the outcomes in terms of what will get preferential development and what will be supported or hindered in development. I think, in principle, a change of use charge reflects that there is a change of value to a lease, and I do not think that is something that should be negated. However, it does become a tool whereby the government can look at whether it uses that as a lever to promote development in particular areas. There is an ability there to use that tool selectively. There is an opportunity to create conditions under which you could encourage development and use it as a tool for promoting development, but in a positive way.

MR SESELJA: Does the current proposal do that?

Ms Hughes: The current proposal has the potential for that written into that proposal. It does not actually say it is going to happen, but it has that potential written in. That is the way I have read it to date. I know there is a lot of concern about it because it is putting a cost on each unit as developed within the inner area. But there are potentially other things that would have more significance in terms of things like parking provision, issues like that. What I am saying is that it would be of benefit to the community to have modelling that shows more of what the levers are that will make a difference in different areas.

The difficulty is that, obviously, if you get a result that preferences development on the perimeter of the city, then to a degree what you are doing is preferencing a system which is extending our infrastructure still further all the time, and that does concern us. But it is the combination of factors that you use as levers to address that that we would be interested in.

MR SESELJA: There has been a proposal on the table for some time. Does the institute support that change or oppose it or have no view?

Ms Hughes: One of the issues for the ACT is the amount of income that is derived from land development. One of the things that we understand the change of use charge is targeted at doing is looking at realising some of the benefit from variations to leases so that there is an income stream arising from those as well as from other sources.

To that extent, because it has a balancing effect, I think it is tied into a much more complex question about the ACT's economic sustainability as a jurisdiction. It is about governance, it is about the funding for the ACT government, and it is one of the tools the ACT government, we believe, is using to look at getting value for the land it holds within the ACT.

In terms of whether we support it or not, as I have said, it seems to us that there is a value to it in terms of its relationship to measuring a change in the value of the lease. Whether it also potentially becomes a tool, as we have said, by waiving it to promote certain kinds of development, I do not know. We do not per se see it as good or bad at this point in time.

THE CHAIR: Ms Le Couteur.

MS LE COUTEUR: You mentioned Molonglo a few minutes ago and you had some concerns about the development there. Could you expand on that?

Ms Hughes: I guess the concern there is that in terms of future city form, that piece of land is within a 7.5 radius of the three town centres. In terms of a long-term strategic piece of land for development for a city of significantly larger size, it is a really key part of the future environment. There are two concerns: one is that unless the city grows really significantly in population, the extension of our infrastructure to service ever-increasing external areas becomes unsustainable.

I guess the other point of view is that unless the city grows really significantly, and that is beyond 500,000, using up valuable land like that becomes really questionable in our view. We do not have a problem per se with moving to greenfield development if it is demonstrably sustainable and has been measured against a really significant population growth and other measures which would in fact achieve environmentally sustainable outcomes. But to just do it when we do not have a strong population base that is going to cover existing services within the sort of form that we have now does present some concerns to us.

MS LE COUTEUR: I am taking it that you do not think the current development

should be going ahead as is.

Ms Hughes: We would like to see a greater focus on achieving more of the population growth within the city perimeter at this stage and looking at how we modify the city to do that.

MS LE COUTEUR: Do you think that would involve modifying the existing buildings or new spaces, or both?

Ms Hughes: You would need to be providing the additional accommodation within the city. We would think that there would be new buildings as well as potentially modification of buildings. You would see both but you would also see uptake of—you would need to also have as part of that a really careful consideration of the balance of open space and development area.

MS LE COUTEUR: I guess you have spoken quite a bit about how the form of our city will obviously change and we will need to change to meet the growth population challenges of the future and so forth. Is the current planning system able to cope with the sort of changes that will need to happen?

Ms Hughes: The evidence at the minute is that the planning system is not providing the community with a level of certainty that they are willing to support in terms of development. It is more about having an environment in which there is support. One is the level of community support, and that is not down just to the planning system. That is down to leadership in our community on a much broader base. It is not just about the planning system.

The planning system, as the Hawke report has quite clearly identified, has some problems in terms of the degree of fragmentation within the ACT government departments and the way that that works in the planning space in terms of the relationship between different elements of planning, whether it is the relationship between transport planning, built form planning, services planning, services distribution provision—the whole integration of those sorts of distributions. So when we say “planning”, I think I would like to keep that as a very broad term to be about that kind of coordinated thinking but I would also like to focus on the fact that it is also about providing a level of information that gives the community some certainty about what the outcomes are likely to be around it.

That is not certainty about things staying the same, but it is certainty about what the change might become. I think that is one of the key issues—if things are not defined in some way people have no sense of “The change is going to stop here” or “The consequences of this change will be that this will be improved.” There just needs to be a better level of conversation about those changes.

THE CHAIR: There being no further questions, thank you very much for coming in to provide evidence this afternoon. There will be a transcript that will be sent to you. If you have any corrections, please send them back in. Once again, thank you for appearing.

The committee adjourned at 3.37 pm.