LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON CLIMATE CHANGE, ENVIRONMENT AND WATER

(Reference: Inquiry into the ecological carrying capacity of the ACT and region)

Members:

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

TRANSCRIPT OF EVIDENCE

CANBERRA

WEDNESDAY, 13 JULY 2011

Secretary to the committee:
Ms S Salvaneschi (Ph: 6205 0136)

By authority of the Legislative Assembly for the Australian Capital Territory

WITNESSES

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Amended 21 January 2009

The committee met at 2.01 pm.

SULLIVAN, MR MARK, Managing Director, Actew Corporation
CROCKER, MR LEIGH, Manager, Water, Actew Corporation

THE CHAIR: Good afternoon. I declare open this sixth public hearing for the inquiry into the ecological carrying capacity of the ACT and region. I would like to welcome Mr Sullivan and Mr Crocker from Actew Corporation. I remind you of the protections and obligations afforded by parliamentary privilege and draw your attention to the privilege statement before you on the table. Could you each confirm for the record that you understand the privilege card?

Mr Sullivan: We have read it.

Mr Crocker: Yes.

THE CHAIR: Mr Sullivan, would you like to make an opening statement?

Mr Sullivan: Yes. We welcome the opportunity both to provide the written submission and to appear today on what is an important issue. Of course history tells us that water was a critical input into the location of Canberra and that the site selection for the national capital took place during the federation drought, which was a drought that is probably the most similar to our most recent drought. Of course, Canberra was chosen as the national capital site partly because of a view that there was an abundant water supply for the nation's capital, although I think the people of Tumut thought that maybe there was more down there.

In relative terms, water is still abundant in the ACT. We basically source about 260 gigalitres of water from our catchments and we have only used a net average of 30 gigalitres for urban supply. With our current infrastructure, including the projects under construction—that is, the Cotter Dam enlargement, the Murrumbidgee to Googong water transfer and the Tantangara options—we believe that that infrastructure can serve about 600,000 people.

It is a difficult question: how many people can the ACT provide for? We think, if you do the maths, it is somewhere over a million people in terms of water. We have to be very careful here that we are not saying that means you can have a million people. It says we have water infrastructure. We are not promoting a big city; we are simply pointing out that Canberra was placed in a location that does give us access to a good supply of water, that this is an ongoing benefit and that water should not be the limiter to Canberra's growth for the foreseeable future. The problem of course is that, on average, you may have enough water but the challenge is accessing it, and particularly when we are in dry spells like the recent drought.

The city's planners I think did a great job in ensuring that accessing the water supply to Canberra was done in the most economical way possible—economical in terms of energy consumption and economical in terms of the dollars spent in respect of creating the infrastructure and operating the infrastructure. So it does mean that, as we seek more water or access more water, it is going to become more expensive. And the more infrastructure we need, of course, the more ecological impact that infrastructure

is likely to have.

Climate change is our biggest threat. We firmly believe that climate change is real and happening, and we take account of it. The climate we are projecting for planning purposes is similar to the climate of the last 17 years. And what we are saying there is that we are making a projection, not a prediction, about climate. It may be wetter or drier; it may have more extremes; but as a projection that is what we are using, and we will have to adapt to this as we go forward. But we know we are making an allowance for a significant drop in inflows.

Things we have not covered in our submission are what specific schemes will be needed to meet future demand and the ecological impact of future projects. No doubt they will have some impact but we cannot measure it until we decide exactly what schemes we want to do. The Murray-Darling Basin Authority and the basin plan will have an impact. The ACT is a very responsible water user and only uses a small fraction of the water it generates, unlike New South Wales, Victoria or South Australia; that is, we generate about 260 gigalitres and we use about 30 gigalitres net, so we contribute about 230 gigalitres to the system. Nevertheless, the plan will have an impact on the ACT's ability to extract water.

The important thing to remember is that there is a difference between the accounting limit that the plan may put on us and the infrastructure limits of our dams, pumps et cetera. For instance, if the current 40 gigalitre net cap were to continue, we would have sufficient to cope with growth for some time to come, and our best guess is that probably around 450,000 people or so could be accommodated within a net cap of 40 gigalitres, if that becomes our sustainable diversion limit. If we go beyond the 40 gigalitres, we have choices to make, or the government has choices to make; that is, to buy more water, restrict demand or attempt to negotiate a new sustainable diversion limit.

Alternative sources of water as an idea is good, and there are clearly potential alternative sources. Roof water can contribute between one and three gigalitres a year and urban stormwater up to 15 gigalitres a year, of that 260 gigalitres. Sewerage effluent production would be in the order of 30 gigalitres a year or more, so it is potentially the biggest alternative source. There are issues, of course, associated with each of these sources. But the only one that stops you, really, is environmental impact. And that is if you identify, and I think one of the lessons that we have learnt out of the work that we have done in working through the environmental impact of our current infrastructure projects is that it would be very good to understand very early if you are running into a showstopper in terms of an environmental issue, and then you stop, because it becomes very difficult once you have committed often tens of millions of dollars before you realise the environmental impacts and the mitigation of those impacts make the project very difficult.

We have been lucky to date, and we think that has not occurred. But we certainly are of the view now that, with some of the more favoured options of the past, I doubt they would ever get through the environmental approvals required to pursue them.

The other thing is reducing our energy footprint. As I say, the planning of the ACT was done well in respect of energy consumption, in respect of water and sewerage. If

our ideal processing is that we take water from Bendora Dam, with very little mechanical assistance, we can distribute water to the processing plant at Stromlo and from there to all of the reservoirs in Canberra, to water in Queanbeyan and even across to Googong Dam; the gravity will do the great majority of that work. The sewerage system is a gravity built sewerage system which basically moves our sewage from all over Canberra to the lowest point, the lower Molonglo water quality control centre, and again with minimal use of pumps. Our biggest use of energy in water is lower Molonglo. Certainly we are looking hard at how can we either reduce our energy consumption or possibly take advantage of things such as the latent energy in waste water to supplement or replace some of our energy consumption.

In terms of carbon tax, we are in a fortunate position in that our scope 1 emissions are well below the level for which the carbon tax comes in. So Actew Corporation and its water operations will not be subject to the carbon tax. We will, of course, see a consequence of the carbon tax in that energy, and currently we spend about $5 million a year on energy. That is a lot of money. It sounds a strange thing to say but it is probably one of our more significant insignificant things. Five million dollars is a lot of money but not a lot of money in terms of what impact a carbon tax would have.

Against that, we have been fortunate in that we have been directly investing in carbon offsets. I think it is a good endorsement of the board's decision to invest in carbon offsets in that a calculation we have done is the net present value of our carbon offsets is about $16 a tonne. So we are buying well. And we will continue to look at how further we can offset our energy footprint. But unlike some larger water utilities, particularly those running desalination plants, we are well below the threshold as an emitter to be captured under the carbon tax scheme.

That sets the scene and throws up some of the issues that we felt were important to raise in the paper. I hope the paper was informative. It was meant much more as an information paper than as a positioning paper. We are happy to answer questions about anything.

THE CHAIR: Thank you, Mr Sullivan. I might start with the methods to calculate the footprint. On pages 16 and 17, you set out five different methods to calculate the ecological footprint of our water usage. The submission notes that the method of measuring impact on aquatic ecosystems is the most challenging but it is also the most vital. Could you expand a bit on our current state of knowledge of the ACT's impact on aquatic ecosystems, how that guides our water management and future research projects that you might be looking at to expand our knowledge?

Mr Sullivan: This is why I have got Leigh Crocker here.

Mr Crocker: There are a lot of things suggested in here, as you mentioned, about what we currently do. We are working very closely with the University of Canberra on what was the e-water group, on different ways of monitoring the impact, particularly in the Cotter River, but we are looking at all of our rivers. There is a measure called AusRivers where you run a baseline and you look at rivers compared to others. So we are taking samples and have been for some time, with the idea of gathering a large information base on which we can make some of these decisions.

There is undoubtedly some ecological impact, as mentioned in the submission. It is difficult also to tease out what is the impact of, say, some of the water sources compared to some other things that might be happening, particularly through the drought, with an actual change in climate. So I guess the answer is that we are continuing to monitor it, study it and work closely with the best science we can get to pick our way through it.

Mr Sullivan: I think we need to include the positive sides of it. It is important to think that during the worst years of the drought, in the hot, dry months, for instance, effluent flow out of lower Molonglo made up the majority of Murrumbidgee River flow between lower Molonglo and Burrinjuck Dam. That is a positive thing for the river that a flow was maintained. It seems to be getting very complex. It gets into even the issues sometimes around Lake Burley Griffin, where we talk around effluent coming out of Queanbeyan's plant into Lake Burley Griffin.

Part of the issue with effluent out of Queanbeyan's plant is that it is so clean. It hits the lake and then it causes stratification and that flourishes, nutrients flourish and then you have algae. Certainly the effluent that comes out of lower Molonglo, particularly since we have improved some of our biological processes in recent times, is extraordinarily good water. One person who loves their sewage suggested that the effluent was better than the water that we produce at Stromlo. I do not agree with that but it is good news for the people who take water out of the Murrumbidgee River.

THE CHAIR: In your opening statement you spoke about the infrastructure—what capacity we have here in the ACT, and also our population and water needs. You talked about a million people. You said, "It's not our view that we should have a million people; I'm just making the statement that it could service up to a million people." I wanted to investigate that a little bit more. Obviously when you talk about ecological carrying capacity, the issue of population comes to the mind of a lot of people, around some particular figure or whatever. I want to know if the assumption that is made there is that in the future people will not use more than 100 kilolitres per person per year in domestic use. I am trying to get some idea of what is being used per person now; what in that calculation would be used in the future; and what is the difference? Is there a difference or is it the same?

Mr Crocker: During stage 3 restrictions we had about 100 kilolitres per year per person, so that is the sort of amount we have been using recently. That calculation for the million depends on a number of assumptions. The other big assumption is what proportion of the water that is used in town gets put back in through town. So you can do it in a number of ways. If you make a low assumption, and say that people will use water more wisely in their bathrooms and the like, and less water will go to our sewage treatment plant, you will have to reduce consumption down to about 100 in order to make it a million people. On the other hand, if you assume that there is a lot of water that goes through bathrooms—not a lot but about the same amount that goes through now—then it has the inverse effect and you can get that 100 back up to a number like 150, which is more like what we expect the medium-term average to be.

Just to recap, if there are about a million people, it depends on how much you assume gets used in the bathroom and goes back in, and therefore the more that you assume goes back in, that number of 100 can go up and down. So 100 is a low number, but

that particular calculation also assumes a low amount of water going back into the river. At the moment those two numbers are more like 150 and 50 per cent—150 to 250 per cent. In order to make this calculation, they have written down that particular number. If you make those other assumptions, you still get numbers of 800,000 to—

THE CHAIR: Because I think you were putting that it would be a 30 per cent split, weren't you?

Mr Crocker: Putting in the fact that there are 30 gigalitres going back in, which is about what goes back in now. But of course, as the city grows, you would expect that number to grow. I think it is a good example of how the water cycle works. You rob Peter to pay Paul—that sort of thing. If the per capita consumption remains higher then maybe more of it will go back into the river.

Mr Sullivan: What we really did was an extrapolation of what we did in respect of the planning for the current infrastructure. We took a set of assumptions. For instance, we took an assumption that the government's targets for per capita water use reduction will be met. We took an assumption that said that CSIRO's 2030 climate change projections are a reasonable projection to progress under. We took an assumption that said we should plan infrastructure to meet the highest ABS projection of population growth within Canberra in the next 25 years. So we did not pick that number; we said, "Let's go and see what stats say," and the stats say the highest could be 600,000 by 2050 or whatever it is. That is how we then built on it and said, "We believe this infrastructure will meet those needs for the next 30 years."

What Leigh did was basically then say, "If we extrapolate that and assume we can find economic access and overcome environmental impact, what does that really mean?" That is where we got to the million. I know that you as a committee understand it well, but I want to reinforce again, for anyone reading this transcript, that we are not a proponent of any number in respect of population. We are basically prudent planners in saying that we will meet a population as it grows.

This reference made us think in terms of: is there a theoretical limit? And we are probably coming out and saying we think that, under our current knowledge, with that theoretical limit, after a million it becomes very difficult. It would also, of course, stretch your assumptions, where any movement from your assumptions would become more critical. At the moment, if we get movement from our assumptions, we think the most potential movement is of course to take the projection of the ABS. You could have taken the median or another projection. We took the top. So that will not worry us. Achieving the government's targets in per capita water use reduction, we think that is a reasonable target. Missing it would change our figuring a bit, but climate will be the thing that will change our figuring.

At the moment I think we do have some confidence in CSIRO's 2030 projections. I would love to be in the backrooms of CSIRO and see what confidence they had in their 2030 projections, whenever they come through and say, "Here's our new 2040 projections." But climate will be the major issue that probably determines whether any of the modelling that we are doing in respect of both the creation of our current infrastructure and looking forward is valid or whether we have to recalibrate in any significant way.

THE CHAIR: On that issue, on page 12 of the submission it says that the most likely future climate will see a 50 per cent drop in long-term average inflows into the reservoirs. Has that climate change factor been included in this calculation around the possible million people?

Mr Sullivan: Yes. That is included in both the planning of current infrastructure and in this working through of future infrastructure. That is basically the 2030 climate projection.

Mr Crocker: With that number of 260 gigalitres, we say that will be the future available water. Another important assumption again for the purposes of answering this question was one-third for consumption, one-third for the environment and one-third for downstream users. So we had to make those assumptions to get a number.

THE CHAIR: As you said earlier, how does that differ from 2011? You mentioned before a 50 per cent figure. How does that one-third, one-third, one-third change from what we do now?

Mr Crocker: It is 260-odd for the environment now, out of 500, so it is probably about half now.

THE CHAIR: Yes, that was the 50 per cent that you mentioned. There is also an assumption in there around infrastructure—that if you did have a much larger population such as this you would need to obviously have some more infrastructure in place. Do you have any calculations on what size dams—I assume we are talking about dams or some sort of reservoirs—or is there another idea you have in mind that would be required to have the water for that sort of level of population? I know this is long term into the future, so asking about costs and things is probably not an easy thing to do, but do you have some idea of what you would need to have in place?

Mr Sullivan: It is a little bit early, chair. We have just embarked on it, and Leigh can talk more about it. We have a set of infrastructure that we believe is going to keep us in place for up to 30 years. That is not long. What do we do next? Certainly classic infrastructure projects are obviously a possible part of the equation, although I must say something about large infrastructure projects such as dams. When I look at Cotter and see a circumstance that none of us would have wanted—an area ravaged by bushfire which basically destroyed the land-based environmental footprint at one level. It was crown land, so the owner of the land was the Crown. So the negotiations over use of that land were with the Crown.

Our environmental approval processes were very significant, and I have no complaint with that. They should be significant. The environmental programs that we have in place in respect of proceeding with that dam are largely around the protection of fish within the reservoir, particularly Macquarie perch. There are some biodiversity offsets in respect of some surviving important environment in the inundation area. And we were able to proceed with the dam.

Without commenting on the merits, we could look, for instance, at Tennent and Naas River. My Cotter experience would say I would never get it through. It is probably

something which we could not have said three years ago. We would have said, "Yes, you always get it through." But now we would be dealing with a very broad range of environmental issues, we would be dealing with leaseholders and we would be dealing with a whole range of issues. We probably have to get cleverer. We have listed there the sources. Water off roofs, stormwater and reuse—

THE CHAIR: So those alternatives.

Mr Sullivan: have got to be considered as alternatives while there are still some clever ways of seeing how you could supplement your supplies. Murrumbidgee to Googong transfer will be fascinating to see. It is another project which was under intense environmental scrutiny by New South Wales, the ACT and the commonwealth, each from a different perspective. The commonwealth's focus was on the protection of Murray cod, which went into flows. The ACT and New South Wales focus was not only on fish but on a more turbid river, transferring water into a less turbid river stream, a river which had invasive species in it, and transferring water to a river that did not have invasive species in it. Again, we were able to overcome that.

This form of clever stand-by supplementation I think is a piece of infrastructure that you would want to investigate further. Clearly, with Tantangara, here is the fact: we sit in the ACT as a very small water user in a very large water basin, stretched and under all sorts of threat, but within that basin there is a thriving water market. I guess Tantangara is about demonstrating, more we think at this stage for insurance purposes rather than basic supply purposes, that if you are willing to engage in that water market there will be plenty of people in the irrigation communities willing to sell.

In relative terms to what we need, it is not much water. We can go to a water rights holder who has more water right than the entire ACT consumes in a year. So if you go to such a place and say, "Are you interested in selling 10 gigalitres?" they will look at the economic equation behind that.

I think we are learning. Dams, including the Cotter Dam, are great things. I think that dams, if you can meet reasonable environmental requirements, are a good source of storing water and can be environmentally very positive, because it does allow you to engage in a long-term environmental flow program, with a certainty that the flow will be there, which you do not have with other things. But it is extraordinarily difficult in terms of committing hundreds and hundreds of millions of dollars to secure.

The Murrumbidgee to Googong project is a smartish program, a program we can turn off. It has no energy use involved in it. It will basically be the standing investment. But when we need it, it will be instantaneously available. We are doing some fascinating things with aquaculture. We will have in that pumping station the first and probably the most advanced fish filter that has ever been used in Australian waterways. It is a fish filter which will basically ensure that no fish egg greater than half a millimetre in diameter—and we are told by the scientists that half a millimetre in diameter means it is basically survivable; if it is below that it will not survive—will pass through that pipeline. That is a tremendous bit of science but it is also a very interesting way to address an environmental issue. Then there is the water purchasing side.

We will have to consider reuse at some stage. But there is also where we interact with the Murray-Darling basin plan because reuse does not do a lot for your sustainable diversion limits because it reduces what you are flowing into the river, which means that if you are on a net cap, your positive goes down if you reuse.

In the end we say you have to make some good economic analysis. There can be all sorts of good policy reasons as to why you would want to do things, other than economic analysis, but economic analysis in the end has to be an extraordinarily good part of it. If you say, "I'd like to do this but it's three times more expensive than doing it this way," it just puts the onus on having those good policy reasons as to why you would want to do it. I am not saying they would not be there, but it is about why you would want to do it.

For instance, at the moment there is really not an argument between the marginal cost of potable water coming out of our infrastructure versus the cost of being able to recycle water. Recycled water is too expensive. You therefore have to look at what the policy drivers would be that say, "This is a better way of doing it."

MS PORTER: You talked before, Mr Crocker, about it depending on human behaviour and what people will do. For a long time during the drought, we were told to use less water and we got very used to using less water. Even though it rains now, because of climate change I think all of us are a little bit cautious about dropping those habits and using more water. A lot of us have put in rainwater tanks to get the water off our roofs, or grey water systems in order to water our gardens. So people have changed their behaviour quite a lot. What does that change in behaviour mean for our assumptions? I am a little bit confused about whether the change in our behaviour is a good thing or a bad thing in terms of coping in the future with the various challenges that we have.

Mr Sullivan: If you are a water seller it is a bad thing. If you have an interest in how Canberra operates, it is a good thing. So we think it is a good thing. Basically the threat of running out of water impresses on people what the value proposition of water is. There is nothing like saying "it's not going to be there" to understand what the value proposition of water represents. It is the greatest affront to the long-held view that water was free and everlasting. You would never assume that we would run out of water. I think when in 2006 we went that close to level 4 water restrictions, people understood it. And you are right, Mary: they really did embrace restrictions. So when we lifted restrictions and replaced them with permanent water conservation measures there were a good number of people who felt this was a wrong thing to do.

The experience in Canberra has been similar to the experience in south-east Queensland and in Sydney in that, in the lifting of the harder restrictions, we have not seen much, if any, rebound in water usage at all in Canberra. We have had one influence in that, and it has been that we had sustained rain. And sustained rain means no-one should have been irrigating. Therefore we are only probably using internal water.

Already now, we have had the driest June since 1986. So this June has been drier than many of the Junes in the drought. We do not notice it yet because we are still getting inflow. The ground still has some moisture in it. But it is getting very dry again. In

July we are getting a little bit of rain. It will refresh things faster than they were refreshing under the drought. But people I think have understood the value proposition of water. The price is increasing. I think when the price increases, you do concentrate on "what is this value that I am getting?" It is not just about a dollar. You pay more money but it does force you to say, "Is this good value or not?" I still believe water is extraordinarily good value. I think it is too cheap to have proper value yet.

I do think we are seeing a long-term shift, which gives us the view that the government's targets are achievable. We were sailing along to meeting those targets extraordinarily well under restrictions. The risk was always, when you lifted the restrictions, whether the behaviour would change back and we would see that maybe meeting those targets would be difficult. To date, the experience is that we seem to have seen a long-term, if not permanent, alteration in people's behaviour. The risk will be, of course, if we have plentiful water supplies, what people will assume from that.

If we had the dam signs up, we would still be reporting that we have 98 per cent capacity in our dams. We will likely have in the high 90s per cent capacity in our dams through to the end of this year, I would think. Then we will start filling up new dams and we will have a lot more. We will not call it 97 per cent anymore, but there will be a lot more water. That may change people's behaviour. They will say, "There's plenty of water and I'm willing to pay." But I think it is good that people are making some value judgements and saying, "I'm willing to pay."

THE CHAIR: You are doing a review of those permanent water conservation measures. You have a consultation running at the moment. Are you able to predict what level of additional savings could come through an update of the measures?

Mr Crocker: A statistic to note from the last question is that since water restrictions came in we have saved over 200 gigalitres. So we have saved in volume about the same volume as we store if all our dams are full. All our ongoing assumptions, our future planning assumptions, assume that we will meet the 25 per cent government target. Permanent water conservation measures are about half of that government target, although, because of the signal about how much you save from permanent water conservation measures compared to stage 1 and 2, and because we have had so little time in each of those different stages over the last few years, it is hard to separate that out. Permanent water conservation measures will be a significant part of that.

We could say now they are 12.7 per cent and it might be 13, but we do not know to that level of detail. So it is probably going to be about the same after the review. The review will change the scheme a bit because the report is current getting drafted. But the number that we are projecting that we will save is still about 13 per cent. And that is on pre 2002 consumption. That is the baseline. Over time, once we have been in the current permanent water conservation measures for some period of time, we will be able to develop a new baseline about what that is. But we have to be there for three or four years before we can understand how the weather influences people's new water use behaviour patterns.

MS PORTER: The fires obviously had a significant impact, the 2003 fires. How

exposed are we with the new dam to another, similar event?

Mr Sullivan: We now have a diversification of supply. Basically we have upgraded treatment at Stromlo. So Stromlo was treated. We have access to water outside of our reservoirs. So we now have a capacity to pump water directly from the Murrumbidgee River to Stromlo. And next year we will have a capacity to pump water from the Murrumbidgee River to Googong. That diversity of supply is the thing that saved us in the fire because Googong took the pressure of water treatment from Stromlo. But I think what we now have which gives us greater confidence is the capacity to take water from what would be a much better source in terms of straight from the Murrumbidgee River, while our reservoirs recovered in terms of any silting damage and things like that that occurs after a fire. I think we are in reasonably good shape in terms of the risk of bushfire and flood—or extreme weather, I should say.

MR SESELJA: Following on from the discussion around capacity, in your statement you talked about 40 gigalitres of extraction providing for around 460,000 people. Just remind me: you talked about a 30-year capacity in the current infrastructure. What population does that take us to, roughly, in terms of the projections?

Mr Sullivan: That could take us to 600,000.

MR SESELJA: So that is the top sort of projection.

Mr Sullivan: And it is 40 gigalitres net. So that is about 60-something gigalitres extraction, resulting in 40 gigalitres net.

MR SESELJA: How does that flow into growth in the region? I think in the submission it talks about a small allocation for cross-border. How small is that allocation and what are we expecting will be the demand from the region in the next 20 or 30 years?

Mr Crocker: I think it is about 1.6 per cent; that is the number that rings a bell.

MR SESELJA: Of the total water use?

Mr Crocker: Of the total water use. That is outside Queanbeyan. When we talk about supply population, we are talking about the water supply population which is Canberra and Queanbeyan. But we have made a small allowance for cross-border supply, and that is 1.6 per cent I think it cuts in in 2015 and it grows gradually by 600 a year or 6,000 a year. But it is very small. One per cent is negligible. It is within the error of the population projections, but it is accounted for specifically. We are not predicting it will happen either; we are just saying if it does happen, we will put aside a bit of water.

Mr Sullivan: It is clear to me that as we mature in our approach of looking at water in a more national way, regional water hubs are going to become very important. We see Yass putting more wall on a fairly small dam to assist them when you would think a regional water approach would probably see a different attitude. We see the corridor between Canberra and Yass, which must be seen as a potential population corridor, but which could not be a population corridor until it solves its water issues. And I

could see it solving its water issues by only one means, and that would be in a similar way to the current New South Wales-ACT-commonwealth agreement that addressed the issues of Queanbeyan and the growth of Queanbeyan. There is the acceptance now by the ACT, with the agreement of the commonwealth, that if growth is in accordance with the planning and development programs for Queanbeyan, Canberra will supply water. We have not got that on the western side of the ACT.

But you would think that for council areas like Palerang and Yass, if they were thinking through where water would come from to meet expansion, their first thought would be Canberra. At the moment they are probably going to immediately dismiss it; it is not going to happen. And part of that is to do with funding. In Canberra, we pay for our water infrastructure. We are the closest thing to full cost recovery because we get very little in the way of commonwealth government subsidy in terms of water infrastructure and the ACT government has made a decision which basically says it is not going to subsidise water infrastructure. It basically looks at Actew to pay for its water infrastructure.

You compare that to a council where there are not tax equalisation rules in place and they will be looking for both commonwealth and state government subsidies to implement asset infrastructure. It is probably difficult to see that commonwealth and state government infrastructure coming to us, to assist building infrastructure for the region. So I think there is a lot of, as I describe it, maturing of approach in terms of water to one that has got less political boundaries and probably some more natural catchment and other boundaries. We have much more relevance to Yass and we have got no relevance to the south coast.

MR SESELJA: Just on the cost of that, the reports over the weekend on the Cotter Dam in terms of its cost, you were reported as saying it has gone up but it is still within the envelope of the $363 million. But you said it is now at a critical point. What does that mean? What is the estimate now in terms of the $363 million?

Mr Sullivan: I thought the *Canberra Times* story on Sunday was a reasonable story. I just hate subeditors who decide, "I'll find a headline for it." And they found a headline; that is fine. In the Cotter we have got this problem. We had this geotechnical problem which we have now overcome. It has cost us seven or eight weeks in time. I believe it will probably end up costing us about $10 million.

When we did the budget for Cotter, one of the highest risk items was the foundation and geotechnics in the foundation. We said, in terms of how we do this, "What are the opportunities in the foundation?" We said that the maximum opportunity in the foundation was that we would come in 10 per cent below budget. With the risk in terms of the foundation, we said the maximum risk was about 40 per cent above the foundation budget. And that is whereabouts we are. That meant there was money in the contingency to cover that sort of cost.

So far we have had two major events that have hit the contingency. We had the flooding of late last year and early this year, and that cost us about $7 million in total. This has cost us $10 million. And our contingency is around $30 million. That contingency has to take us now through the wall building. Fortunately, in terms of the wall building, once we get reasonably out of the ground the things you do not know

are not very much there anymore. We have to get it up to a certain level where a flooding event, which is probably our most critical risk, diminishes as a risk. When we take it somewhere over the level of the current Cotter Dam, which will probably be by about September-October, we would say we are probably out of the woods.

The most recent bureau forecast is that Canberra will have a dry winter. It is more likely to have a dry winter than a wet winter. I think I was quoted as saying it is critical and I am watching every dollar. I still have enough in the contingency, I believe, to cover a sort of unusual event. With a big unusual event, that is when I am going to be in corporate, personal and all sorts of trouble.

MR SESELJA: Presumably the concrete and steel are all fairly fixed prices in terms of being negotiated long ago, so any changes in prices or carbon tax or anything will not affect those materials?

Mr Sullivan: No. We will be out of the dam before the carbon tax comes in, in terms of our energy feed there, although we completely offset the emissions cost of the dam through our voluntary purchase of green material. It will not affect it. There are two elements. We have got the aggregate. We have got that big grey hill you see up there now, which is 930,000 tonnes of aggregate. That is all sourced from within the project. We have fixed contracts in respect of the cement dust and the fly ash, which are the two major elements. That includes its transport. There are elements of that which would have been impacted if we were post 1 July 2012, but I am hoping that by July 2012 we are out of there and we have a dam.

MR SESELJA: In terms of those changes to the contingency, how often is the government updated on those changes? Were they recently updated on those blow-outs? If so, when?

Mr Sullivan: I wrote to the government through the shareholders on that issue on I think Monday or Tuesday of last week and alerted them to—

MR SESELJA: That was the latest—the $8 million to $10 million?

Mr Sullivan: That is the $8 million to $10 million. I did not go through it. We have a very big spreadsheet against risk and opportunity, and it is always moving. I do not alert my board or the shareholder or the government if that movement is what I would call normal movement around it. It is when there is an abnormal movement. There have only been two. It sounds like a lot of money but all the time we are moving a million dollars from a risk back to an opportunity or half a million dollars back the other way. It is shuffling around the place all the time. But these have been the two extraordinary events and they are the ones that are the subject of a special briefing.

THE CHAIR: I want to go back to the issue you were discussing before because this is about the ecological carrying capacity not just of the ACT but of the region. As you said, there is not really any sort of agreement or whatever in place going out to Yass, and that is going to be an area with residential growth, with population growth. And there are apparently a number of agreements in place with the Sydney to Canberra corridor and greater population there. There are some cross-border development type agreements in place where we will see, again, greater population and greater

residential growth right on the border of the ACT. How do you get involved in all of this? Is your advice sought? Have you got some connection to regional forums? How do you engage in this issue regionally?

Mr Sullivan: Our advice is sought both by the ACT and certainly by councils. Yass talks to us. We have had several conversations with Yass. Probably, as I say, the biggest issue confronting those sorts of negotiations at the moment is the real cost of water. We have indicated that if there was a government decision made that they wanted to do something in this area, we believe we have the technical and water capacity to be able to assist. But Yass's response is basically that they almost think we price gouge them. "Gee, you're charging us Rolls-Royce rates." And it is not; it is what it would cost us to deliver the water.

Canberra's water, when you compare it to some regional water, is quite expensive water. The difference is that Canberra water reflects full cost recovery of our water operations and infrastructure, and many regional councils' water prices do not reflect that because they are basically subject to significant subsidisation through the commonwealth or the state. That is going to be the critical issue. I think the ACT government did well in terms of once that Sydney to Canberra corridor planning document was produced, they basically said:, "We're comfortable with that. And as long as your developments are in line with that, we commit to supplying water to Queanbeyan City Council in respect of developments that take place." So in respect of Googong township, we are committed to providing water. There will be no negotiation as to whether we are going to provide sufficient water for that development to occur. It is covered because it is within the plan and Queanbeyan are progressing it. There is not a similar document in respect of the corridor west.

THE CHAIR: So through Murrumbateman out to Yass?

Mr Sullivan: Yes. Clearly, an ACT government, particularly if it is going to say, "We'd be happy to be the water hub," is going to be vitally interested in what that planning document looks like. Is it 30,000, 40,000 or 50,000 people living along that corridor or is it more? Clearly at the moment, if you said what would be limiting population growth along the Canberra-Yass corridor, water would be the most significant issue.

MR SESELJA: You talked about some of the alternative sources of water. I forget if this was in your submission or in your introduction. You talked about roof water having the potential for one to three gigalitres. Is that every roof in Canberra that we are talking about or is that a proportion of roofs?

Mr Sullivan: No, that is what our estimate of roof water is. It is interesting that in Singapore you are not allowed to have gutters. You cannot have a gutter and you cannot have a container that will stop water from reaching the city's reservoirs. So that is as an extreme in saying, "We want to capture the water and, in controlling the water, we want to look at it." Of the rainwater that falls on our roofs, we certainly get most of it. Some is intercepted by households through rainwater tanks, but we get some. I guess all we are trying to say is that we are attempting to look at every possible source and say, "What would it mean if we did it this way?" Grey water intercepts are something we think are a good policy, but it intercepts our water supply.

It moves our water supply from coming back securely to our treatment and replaces it by putting it in possibly an unrestricted way onto people's lawns and gardens.

MR SESELJA: When you talk about the one to three gigalitres you are talking about your potential for catchment if it was unrestricted. So you are talking about if you were to do stormwater catchment or something, it would be another one to three gigalitres potentially from—

Mr Crocker: Stormwater is about 15. It is in the submission. Stormwater is about 15. The one to three is if X number of people had rainwater tanks then this is how much you could harvest from rainwater tanks. So it is not a specific Actew project; it is how much we estimate would be available.

MR SESELJA: Is there a cost estimate on what it would cost to capture that one to three gigalitres?

Mr Crocker: No. We could generate one because we could go back to the assumptions and work out how many rainwater tanks it was and multiply that by the cost of a rainwater tank.

Mr Sullivan: I would hate to see a rainwater tank removal subsidy! I think rainwater tanks are one of those classic things. If you were a hard, rational economist, they do not make any sense. But I think there are good policy drivers and good personal ones. It gets back to Ms Porter's point of saying, "Are we seeing a change in attitude to water?" I think to a degree a rainwater tank indicates a change in attitude. It is a statement that "I wish to conserve; I wish to do the right thing by my water." It is probably a good example of where non-economic analysis would say, "Yes, that's okay."

THE CHAIR: On page 30 of your submission you discuss the economic impacts of reducing water consumption and the comment is made that Actew takes a net benefit approach, and that is where the cost of supplying water is compared against the cost of not supplying water. I am interested in the cost of not supplying water. Can you talk a little bit about that?

Mr Sullivan: I will start and then let Leigh get more technical about it. The greatest measure is what is your willingness to have restrictions. For instance, if we get to a population level and say that we need more water supply, we can work through what the economic costs of that water supply will be. Against that, it really is an analysis of saying, "If we don't supply it, what is the cost of not supplying it?" That is, what will the impact be on the economy, what will the impact be on consumers, in terms of them understanding what it means not to have sufficient water?

We did a fairly large "willingness to pay" survey several years ago. The thing that inhibited it was that people had never really experienced restrictions. So when we asked someone, "How much are you willing to pay to avoid restrictions?" the answers were a little bit all over the place. I am sure if we had run that survey in 2006 when level 4 was about to come in, we could have got a beautifully skewed result. People would have said, "I'll pay whatever it takes to do it." So we are probably going to do it again soon while people have a memory. But we have to try and quantify just what

is the choice that at one level government will make. Government at the moment has with us a policy parameter that says you should have water supply levels which would see a one-in-20-year restriction regime. If you relax it by saying, "I'm happy to have one in 10," you do not build as much infrastructure. You do not need as much infrastructure.

We are quite proud of the fact that we think as a utility we are further into economic analysis of supply decisions than probably any utility in the country. And that is with not claiming that we have got it right. If you read the ICRC report into the Cotter Dam, the ICRC's view of the Cotter Dam was: "We think this is a very efficient project, we think you've got a good budget, you're doing it right," et cetera. But they said, almost: "Should you be building it yet? We're not quite sure whether your economic analysis meets building it yet." We even took that as a positive. We basically said, "We've just got to keep working through on how we do this analysis." I think in the end it has to be something you must demand if you are a government. I , as the head of the water utility, could go to a minister and, without too much trouble, scare them about water, and say, "I have to build this." And too many water infrastructure decisions around the country are based a little bit too much on "Well, we have to build it." I think economic analysis is the way to do it.

Mr Crocker: I do not think I can add much more to that. First of all I should say I am an engineer, not an economist. We have developed a cost for what the cost of restrictions is—the cost to the community of one month in stage 1, one month in stage 2, one month in stage 3.

Going back to one of your previous questions, when we are looking at all of our options, it is not just about infrastructure; it could be about having a demand management project. It could be anything that restores the supply-demand balance. If we did not do anything, we project forward with our climate and work out how often we would be in restrictions, for how many months. We know the cost per month, so we can add up a cost for that. So we get to the cost of doing nothing. Then in our model we implement the solution, which could be demand management, it could be a dam or whatever, and we project forward exactly the same again and see how many fewer months we are in restrictions, or we might be in stage 1 when previously we would have been in stage 2. So we can get a cost difference on those two things. We compare that saving in not supplying water to the cost of the actual project and see whether it is economic or not. So that is broadly the way we do it.

THE CHAIR: Thank you very much for appearing this afternoon. There will be a transcript and we will make sure that you get to have a look at that in case there are any corrections that need to be made. Thank you very much for giving your time this afternoon for the committee.

Mr Sullivan: Thank you, chair and members. If you have need of us, either in writing or coming back, do not hesitate because we are very keen to assist in whatever way we can in this.

The committee adjourned at 3.07 pm.