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PRODUCTIVITY COMMISSION

NATIONAL WATER REFORM

DR J DOOLAN, Commissioner
MR J MADDEN, Associate Commissioner

TRANSCRIPT OF PROCEEDINGS

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COMMISSIONER DOOLAN: Good morning. Welcome to the public hearings for the Productivity Commission's National Water Reform Inquiry, following the release of our draft report in September. My name is Jane Doolan and my fellow commissioner is John Madden.

I would like to begin by acknowledging the traditional custodians of the land on which we meet today, the Ngunnawal people, and I would also like to pay my respects to their elders past and present.

The purpose of this round of hearings is to facilitate public scrutiny and input into the Commission's work on the national water reform and to get comments and feedback on our draft report. Following this hearing in Canberra, we'll also have hearings in Sydney and subject to attendance, in Melbourne as well and we'll be working towards completing the final report to present to government in December, a bit later this year, after having considered all of the evidence presented at the hearings and in submissions that we anticipate receiving, as well as informal discussions with various stakeholders.

Participants and those who have registered their interest in the inquiry, will be automatically advised when the final report is released by government. The government has 25 sitting days of parliament after we submit to actually then make the report public. So effectively, it could be made public any time in the New Year through to about June.

We do like to conduct our hearings in a reasonably informal manner but I do remind participants that a full transcript is taken. For this reason, we cannot take comments from the floor but at the end of the proceedings I will provide an opportunity for any persons wishing to, to make a brief and individual presentation.

Participants are not required to take an oath but we do expect that they are truthful in their remarks and they are welcome to comment on issues raised in other submissions during their remarks. The transcript will be made available to participants and will be available on the Commission's website following the hearings. Submissions will also be made available on the website.

In terms of occupational health and safety, the evacuation arrangements for today are that should it be required, we will go out, turn left and exit the building, turn left on the road and assemble outside the Hotel Kurrajong. So if that is all clear, I would now like to welcome Edmund Hogan, representing the National Farmers' Federation to provide us with his submission. So Edmund, if you would mind, just an overview, a short overview of the position of NFF and then perhaps we start to have a question and answer session.

MR HOGAN: That sounds good. Thank you and good morning. My name is Edmund Hogan. I am the policy officer for national resource management at the National Farmers' Federation. The NFF welcomes the opportunity to provide a submission in response to the draft report of the Productivity Commission's first inquiry into national water reform. On matters related to water, NFF is the only national body that brings a 100 per cent farmer focus viewpoint. We represent the interests of farmers that are affected by water management decisions, including irrigators, riparian floodplain landholders and stock and domestic users.

For the rural water sector NFF concurs with the Commission's overriding narrative, that good progress has been made in implementing the national water initiative in most jurisdictions. That the reform stemming from both competition policy agreements and the national water initiative have improved the management of Australia's precious water resources and that

maintaining a commitment to the key principles and foundations of the NWI are crucial to our continued success.

This is not to say that reform has not been without cost or pain. Indeed, many rural water stakeholders, particularly in the Murray Darling Basin are fatigued after almost a quarter of a century of reform. We recognise that some stakeholders, particularly in the urban water sector, are looking for the Commission to make recommendations for steps to change reform. We urge the Commission to ensure that its final recommendations reflect the nuance between the reform for fatigued rural water sector and the reform hungry urban water sector.

In responding to the draft report, NFF has focused our comments that we've prepared for today and for a submission on those recommendations that relate to the rural water sector.

COMMISSIONER DOOLAN: Okay. John, do you want to - - -

COMMISSIONER MADDEN: I wonder if NFF has any further comment on our recommendation with the Murray operation costs and regulatory oversight for those operations?

MR HOGAN: Certainly.

COMMISSIONER MADDEN: And following on from that, also any comment regard the Border Rivers Commission and oversight of those joint venture operations on the Queensland and New South Wales border?

MR HOGAN: The NFF are very supportive of Recommendations 7.2 from the draft report, regarding River Murray operations. In a connected water market such as the Southern Murray Darling Basin parity of costs, recovery of shared services such as the RMO is essential. We support the recommendation for independent oversight of RMO by economic regulators and we urge the Productivity Commission to go further with this recommendation, including recommending a review of RMO that canvasses the full spectrum of options for reform, including full institutional separation of service delivery functions and its policy and regulatory functions.

Furthermore, we consider that this recommendation also be applied to the Borders Rivers Commission and this is something we highlighted in our initial submission to the Productive Commission. We have seen as a result of the implementation of both competition policy and/or national water initiative reforms, rural water services that are delivered by government are monopoly service providers, are subject to the oversight of a pricing regulator that ensures that service delivery is efficient and prices are set transparently.

Stark exceptions to this are asset service providers such as those like the Border Rivers Commission. The costs that these organisations pass on are significant. I have some stats here but for a customer of the Border River Valley, the cost of – that are passed on to them, are somewhat of 35 per cent of their total bill.

Water users and land holders across New South Wales continue to be frustrated by the lack of transparency in the process, and it's our view that there's a great need for transparency and independent oversight to ensure RMO and BRC costs are prudent and efficient and it is long overdue that this take place.

While it makes sense to manage the asset base holistically, it is important the cost of building, operating and maintaining these assets is transparent and that irrigators are only

asked to pay their fair share of costs through fees and charges. Recovering costs associated with water, use a service provision such as the RMO and BRC should be subject to a clear and transparent process for establishing efficient costs of agreed services.

COMMISSIONER MADDEN: Do the NFF have a view on who should take carriage or responsibility for review of RMO?

MR HOGAN: We are currently consulting with our membership and it's something that we'll include in our draft submission once we have been able to gather the full view of our members, but I am happy to take that on notice and provide that to you later.

COMMISSIONER MADDEN: That would be welcomed.

MR HOGAN: Yes.

COMMISSIONER DOOLAN: I think we've heard through your initial submissions that you think there should be less of a focus on held environmental water and perhaps more on planned. Could you just, sort of, expand on that a little?

MR HOGAN: Sure thing. The NFF is very supportive of the Productivity Commission's recommendations regarding the management of environmental water and the held environmental water portfolio. We are very glad to see – and it was highlighted in Recommendation 5.1 by the use of the terms "where possible" by the Commission. It is NFF's view that environment outcomes should not be compromised in the pursuit of other goals for water management.

In regards to the draft report, we were wholly supportive of all the recommendations, for example, 5.2, it strongly aligns with NFF's view, the planning and integrated management of waterways is an important environmental assets, must recognise that the volume and timing of water events is only part of the solution to achieving environmental outcomes and that non-flow efforts may also play an important role. In NFF's view management at a catchment scale and catchment planning most supports integrated management and the incorporation of local knowledge and expertise.

We are also very supportive of Recommendation 5.3 relating to the importance of an at arm's length governance arrangement for managing held environmental water portfolios, as is the case for the CEWO water portfolio managers should be able to operate in a way that is not subject to ministerial direction. We recognise that the water portfolios are a significant government owned asset, however we hold the view that the government decision-making will dictate water plans and the outcomes to be achieved from those use of the asserts. Combined with transparent reporting of use and outcomes, provides, in our view, sufficient government oversight.

We believe that the Recommendation 5.3 could be extended to also include decision-making for rules based environmental water where rules enable water managers' discretion as to the time of use, for example environmental contingency allowances.

COMMISSIONER DOOLAN: All right. So the distinction is more about, in planned water, it's whether decisions being made by operators that are allowed for within the rules that you'd like enhanced?

MR HOGAN: Yes.

COMMISSIONER DOOLAN: Or you said it important to have enhanced transparency.

MR HOGAN: Yes. We'd like to see a lot of transparency. I know a lot of our membership and landholders are – become frustrated when they don't have an open view as to the decisions that are to be made in regards to a significant held portfolio.

COMMISSIONER DOOLAN: All right. We also heard through the stakeholder working group, that you believe it's important that there is significant information on climate change as it unfolds and how it transfers into conditions that your members are experiencing. Could you just give us a little bit more of an indication, what sort of information you feel would be important to have available.

MR HOGAN: Certainly. And the NFF was very supportive of the Recommendation 8.1 of the interim report relating to building capacity and sharing information knowledge capability, and as you said, along the consultation process, we've certainly highlighted that we believe there's an opportunity for the Commission to make it clear why the investment in climate, social, economic, cultural environmental knowledge is required to inform water planning. In preparing their final report, the Commission is, what we believe, is setting the pathway forward for future NWI implementation and what we hope is really refreshing the NWI in setting out those areas where future reform is possible and we, as the NFF, believe that in order to deliver policy that is appropriate and has that long-range view, it really has to be underpinned by the scientific data that makes the decision-making for policy makers easier and will reflect the real world when we come to be there.

COMMISSIONER DOOLAN: Thank you.

COMMISSIONER MADDEN: I note the NFF made a strong statement in its submission to the issues paper on infrastructure investment. I would like some comment on our recommendation in that area, whether the explanation of economic viability was seen by your members, as far as you can ascertain, as providing enough detail. Whether within the interim period between your submission and to date, is there experience from your members of proposals and the degree of information that they have been provided about future costs. So if you could comment on that new infrastructure development that would be welcomed.

MR HOGAN: Thank you. And we are still engaged in that consultation process with our members, but in regards to your question, I can say that we were pleased to see the recommendation, but we believe that the Productivity Commission could go further. The focus of chapter 7 of the interim report is water infrastructure for agriculture and the recommendations relate to ensuring an investment in infrastructure is transparent and prudent.

The NFF is very supportive of the principle of independent oversight of economic regulators to support the transparent setting of efficient prices. However, we do not accept the goal of full cost recovery or upper bound processes in all water sources is appropriate, and indeed, much of the recent interest in developing water infrastructure proposals has been driven for water uses other than agriculture with proposals to augment the Eden Bann Weir and build a weir on the Fitzroy River in Queensland, being good examples of this.

So it is NFF's view that chapter 7 really lays a foundation that is relevant for the development of all infrastructure regardless of its use, and we recommend the overall framing of the chapter be broadened to include all uses and not just agricultural uses. The NFF supports the PC's proposed recommendations which will encourage governments to ensure that they make the upfront investment in scientific analysis required to support the long term sustainability of projects and ensuring that NWI consistent water entitlement and water resource planning

processes are in place, and that investment decisions are made on sound and transparent business cases, and as I said, we're still consulting with members, but we will provide an expanded view in our submission.

COMMISSIONER DOOLAN: Could I just follow up? You said that you don't accept necessarily that full cost recovery is appropriate in all systems. Could you just expand on that a little?

MR HOGAN: Certainly. So that's particularly the case where water resources – where investment in infrastructure has been less than prudent. For example, where assets are heavily under-utilised and where services are delivered at standards that far exceed user needs. Water users should not bear the brunt of poor investment decision of asset owners, and these circumstances where efficient prices are deemed to be beyond the ability of the user capacity to pay, transparent community service obligations are required.

COMMISSIONER DOOLAN: All right. So it's a reflection really of those situations where there's been poor investment in the past, leaving a legacy.

MR HOGAN: That's what we say. A real legacy and it falls on the water users to make up for that.

COMMISSIONER DOOLAN: All right. So effectively quite supportive of many of the recommendations in the report and the directions. Areas to date that you'd like to see us go further on is that one that you've mentioned just now, about the investment in rural being extended to all new water infrastructure. The extension of the recommendations on River Murray Water and River Murray operations to also include the Border Rivers. Are there any other areas that you feel that the Commission did not go far enough?

MR HOGAN: We are still in consultation with members, but they're the areas that we've highlighted for now.

COMMISSIONER DOOLAN: We can take that overall supportive of a new or refreshed renewed national water initiative generally?

MR HOGAN: Yes, generally. That's our view. It's crucial that the Productivity Commission have a look at the NWI and there's a real chance to provide a refreshed view. There is one more matter.

COMMISSIONER DOOLAN: Yes.

MR HOGAN: That I think – and that point brings us around to that. Is that in describing what that refreshed NWI is, the NFF's view is that that could be underwritten in the final report of the risks associated with further lagging of NWI implementation or the risks of not pursuing these reforms at all. And the NFF believes that providing that base offers a real opportunity to describe why a refreshed NWI and further implementation is required.

COMMISSIONER DOOLAN: I certainly take that point that we perhaps need to draw out more specifically the risks of not going forward. It would be helpful if, in your submission, your members actually highlighted what they perceived to be the risks of not going forward from their perspective. Is that something that you can either comment on now, or ensure that the submission could cover?

MR HOGAN: Yes. More than happy to provide expanded comments through our submission, and I can provide a few comments now. It goes really to providing what we see

is the risk of not continuing with these implementations and the risks of not refreshing, really go back to why the need for the National Water Initiative arose in the first place, and it arose from growing frustration from stakeholders at the slow pace of the implementation of water reforms agreed under the National Competition policy and also a lack of confidence in the way that the National Competition policy principles were being interpreted by jurisdictions.

The NWI in initial funding that supported the implementation of reform, provided the impetus for the states to deliver reforms that were either politically difficult or where there was administrative inertia, and in the absence of a contemporary agreed water reform framework, the NWI's now 13 years old and we've learned a lot of lessons in those 13 years from either mistakes that have been made or from new knowledge, and particularly since the introduction of the Water Act 2007, there's been changes in policy frameworks and the new institutions have emerged, so they are the risks that the stakeholders that we engage with really see that if this process doesn't continue, they'll go back to being frustrated in transparent processes and also that the really good things that we've learned along the way in the last 13 years, just won't be picked up and carried forward.

COMMISSIONER DOOLAN: All right, thank you. Have you got any closing comments that you would like to make or questions of us that you would like to ask about the report?

MR HOGAN: No, I'm good, thank you. I just thank the Productivity Commission for the time and we look forward to receiving your final report.

COMMISSIONER DOOLAN: Thank you very much.

MR HOGAN: Thank you.

COMMISSIONER DOOLAN: And we look forward to receiving your submission.

MR HOGAN: Thank you.

COMMISSIONER DOOLAN: Thank you. So we are departing a little from the agenda and we have the representative Meredith Macpherson from the Central New South Wales Councils, known as Centroc. So Meredith, I am sorry, would you just introduce yourself.

MS MACPHERSON: Certainly.

COMMISSIONER DOOLAN: And tell us a little about the position of Centroc.

MS MACPHERSON: Okay. My name is Meredith Macpherson and I am the program manager for the Centroc Water Utilities Alliance, it's a role I have held for five years. My role with Centroc is two-fold however, I delivery on the Centroc board's objectives for water infrastructure including advocacy, intergovernmental relations and strategic regional planning, while also managing the operational delivering of the program for the alliance.

Given this, Centroc has a strong interest in the draft recommendations by the Commission in the areas of water resource planning and particularly institutional and funding arrangements for the delivery of local water utility services to our communities. Centroc represents an area of approximately 220,000 population, so we've got 14 utilities within our membership so we represent a fairly large part of regional New South Wales.

So firstly, thank you for the opportunity to meet with you today. Andrew Francis, my chair, I believe met with members of the Commission at a workshop in Sydney a few months ago to talk specifically around regional institutional arrangements. He was hoping to be here today,

but unfortunately was unavailable at the last minute, so I am standing in his stead and I'm hoping I can do justice to some research that we've done subsequent to presenting to you in Sydney in July and this research has – what we've done is, we've gone onto a greater depth of analysis on the performance of the alliance using the existing DPI water performance monitoring data to benchmark performance across some key metrics against other utilities in the State.

This was the subject of a presentation to the Local Government New South Wales Water Management Conference in Dubbo a couple of weeks ago and has received quite a lot of interest around the State from those who were there and I've been asked to provide this presentation to a number of people. So if time permits, I'd like to just touch on some of the findings from that research and I will refer to my notes so bear with me.

Firstly, we were very pleased to read in the draft recommendations, positive feedback about alliances. As you know we have been a strong advocate for the benefits of working collaboratively across local water utilities. We know it works for our region, but we wanted to put our money where our mouth is and start to explore some of those key metrics for performance, both for an individual utility and for an alliance and to test the limits of the alliance model as a potential model for other utilities, particularly in regional areas.

So in doing this project that we've worked on, we've gone back and looked at the DPI performance monitoring data. We've done comparisons across the top ten local government utilities by number of connections with the bottom, then we've compared these to the State medians where reported and against Sydney Water as a comparison against what's a very size-conscious utility.

We've reviewed all the 266 business indicators, the 68 sewage treatment and 36 water treatment indicators used in New South Wales to measure performance to arrive at a list that we can use as a basis comparison across utilities. So what we've found, I will include in our submission because the findings have been quite interesting. They are quite detailed. I think it pretty much demonstrates what you would expect, that the top local water utilities – the top ten are dominated by coastal utilities with fairly consistent supply needs and that these align pretty well with the state median. The bottom ten, however, there's a higher variance, much higher median, and are dominated by the inland and western local water utilities which, of course, is of great interest to us.

For these climate is the main driving factor and potentially security of supply. So this, sort of, further reinforces the geographical challenges of sparse populations in smaller western utilities.

So what we've then done is we've gone on to look at the 350 data points reported to DPI water each year, because ultimately these are what our performance is judged on. So what this is telling us from the work that we have done, is that despite all the other metrics that we're looking at, despite what we found to be a fairly high performance across the sector in all areas, at the end we are judged by two things. Water quality management and ability to generate access or capital.

So the way we've done it is we've gone back through the 2015/16 reporting year and we've undertaken an independent audit of all our performance monitoring data across our 14 utilities and then we've drawn a system boundary around the Centroc council region and aggregated the metrics or developed an appropriate weighed average for the key indicators and then

we've compared ourselves against the top ten and the top bottom to see how we're performing, and partly the reason why we've done this is there's a bit of a tendency to say, "Oh, look alliances just sit around and have a cut of tea and a good chat, and it's lovely, we mentor each other", and certainly we do a lot of that.

But we, in our region, see fairly strong evidence that it's a good model and a good way to proceed and the results that we're finding are demonstrating that. So just quickly how we've compared is that we've found, consistent with previous results when we've looked at the top ten and the top bottom utilities, the inland skew leads to higher water consumption and similar sewer collection rates. Again, densities of connections are much lower for water and similar for sewer implying that sparser populations and remote water sources.

Asset water maintenance, there's probably a key difference for us, particularly where there's non-revenue water loss, is something that we know we have to focus on. Environmental indicators and human health, we're finding all positive, the indicators are positive. The financial indicators are positive. The operational cost for water is higher as expected and for sewer is lower and the capital spend per property is consistent, noting that we have got some skewed data given that we've just had a \$70m project undertaken in one of our councils.

So we'll provide more comprehensive details around the results that we've found, but I think what we're trying to say is that size doesn't really matter is what we're seeing, is that for us the importance is in having local water utility services delivered to our communities at the local level. We're finding that the group work being done through the alliance is working well. We're now starting to get some results on the ground to actually be able to quantitatively measure that, and while this is just the beginning, we'll further work in the next 12 to 18 months.

In relation to pricing, we recognise that the New South Wales model of what Andrew refers to as lumpy capital works subsidised by the taxpayer rather than fully self-funded by the utility through user generated charges, does not fit the NWI principles of transparent pricing and self-sufficiency, although what we've found through the work that we've done recently is that the model works and allows the utilities across the State to set fair pricing based on capacity to pay.

So there are varying views across our membership in relation to the draft recommendations require independent bodies to review financial performance reporting frameworks for providers in regional New South Wales. Some see this as a good thing, but ultimately they're concerned about threats to their ability to set prices where council, through its IP&R processes are seen as best able to negotiate price and discussion with their communities.

So we have long advocated that one size fits all approach within the New South Wales context is not useful. We favour the alliance model and welcome the positive feedback about that. We know it allows for local water utility ownership and local values in customer engagement and service delivery, while providing the arrogation needed for some economies of scale. It allows for each utility to do what it does best. We've demonstrated that through the data research that we've done recently and while not directly allowing for the sharing of capital generated in one area with another, it pushes the bounds of this, so we believe that – you know, we're very keen to sing the benefits of the alliance and happy to recommend it as a key option for New South Wales water reform but I think the challenge is going to lie in how you institutionalize that if it is to go ahead. We understand the mechanisms and the

governance framework. We've been doing it for eight years now so we recognise the need to clearly articulate that framework and describe the limits of that model.

I do have some comments about the funding framework, but I know I have been – I have probably used more than my five minutes, so I am happy to hold back and let you ask questions at this point if you would like, or I am happy to provide comments on the funding framework.

COMMISSIONER DOOLAN: Feel free.

MS MACPHERSON: Can I go on?

COMMISSIONER DOOLAN: Yes, of course.

COMMISSIONER MADDEN: I've got a few questions and then move to that.

MS MACPHERSON: If you like.

COMMISSIONER MADDEN: With a statement.

MS MACPHERSON: Yes, sure.

COMMISSIONER MADDEN: So just to break it up. Thank you for the over-view and the information provided, and I do note the accountability and transparency with the Centroc governance arrangements and transparency you provide by minutes on the web and plans et cetera.

I just wonder, the work that's done and also any comments given that you've been there throughout, what are the key driving elements that actually would improve performance, and has there been an improved performance over time, not just snapshot benchmarking compared to others? So I guess it is two parts, maybe first about that improvement over time.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: And then second, what has the alliance actually enabled you as an organisation and a group to do it through planning or operations, you know, that actually has driven that improved performance?

MS MACPHERSON: Yes, well, I will start with the first question. So I am the first ever program manager of the alliance and I have to say that personally I have seen great deals of improvement over the time that I have been there, but it's how we measure that and that's what we're trying to do now. So in the last eighteen months, we've really focused our attention on drinking water quality management, and we're doing a lot of work in that area and what we see is important at the moment is the data basically.

We are going back to all the data, we're cleaning the data up, we're making sure that our data is consistent across all our utilities so that we can provide really good quantitative measures of the performance improvements. At the end of the day, we know that's what we're going to be judged on, so even the process that we've been through recently with the performance monitoring audit and analysis, has highlighted for us where we need to work – where there are still gaps in what we've done so far and where we need to improve.

So generally speaking, I'm watching the graphs do this. I'm certainly in the drinking water quality management side of things. We've done a lot of work in that area and I'm happy to provide further evidence of that in our submission. Its early days but we see that as our top -

safe quality drinking water to our community as the absolute top priority. We've probably come – we've changed a little bit over the last couple of years. We had a \$4.5m grant so it was very operationally focused – it was about 18 months ago so the work I've been doing has been very operationally focused which has been heavily involved in asset management and asset improvement, so really helping our members, you know, with their pipe relining all those sorts of, you know, energy efficiency, real on the ground work.

Now what we are doing, having delivered that with a bit of fatigue amongst my group, we've pulled back and we're being far more strategic looking at that drinking water quality and the data management. So you are right in asking me that question how we're gauging that performance. That's what we're into now. So the second question?

COMMISSIONER MADDEN: Was really, not just performance over time.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: But what are the key planks or elements that the alliance has allowed you as a group in terms of chains operations. So what are the, I guess the nub of the things that allows you to do differently that then drive that performance?

MS MACPHERSON: Interestingly enough, with the alliance, it's amazing what the power of peer pressure can do. So we've got two large utilities in Orange and Bathurst. Then we've got the middle – what I gauge as the middle-sized ones so that the councils like Parkes and Cowra. Interestingly enough the middle-size ones are the ones who often do the heavy lifting. They're very, very – like they're the core group that support the alliance. So that core group really influences what the smaller probably not so well resourced councils do. So I suspect that some of those smaller councils may not do some of the things that we as an alliance do without the larger group taking them along on the ride.

So for example, the performance monitoring stuff that we've done, they wouldn't have done that. Only two councils are actually required to do that. That's the ones with 15,000 connections, but they've all come on board because they see that there's pressure to do that, and the same with the drinking water management side of things. At the moment we're doing a good practice in drinking water quality management. It's an audit process, Water Services Australia, like an audit process. They don't have to do it, but best practice is what drives us and so we're constantly pushing the bounds, I suppose, of what they would otherwise do by themselves individually as a group.

So they're two examples that I can provide you, and as I say, drinking water quality at the end of the day, that's our absolute number one priority. That and reliability and supply.

COMMISSIONER DOOLAN: So I suppose we saw some of the benefits of collaboration maybe in three phases; improved performance by sharing and by mentoring and working through. Potentially collaborative planning, looking forward.

MS MACPHERSON: Yes.

COMMISSIONER DOOLAN: And then possibly, in a mature phase, perhaps some form of coordinated asset management ownership.

MS MACPHERSON: That's what we - - -

COMMISSIONER DOOLAN: Is that how you see the - - -

MS MACPHERSON: Yes, that is definitely how – so we've actually – the way we started was, we started with the planning side first.

COMMISSIONER DOOLAN: Right.

MS MACPHERSON: So we started with – well, first of all, we had a region wide water security study. Centroc water security study. That was done in 2009 and that was really what guided the development of the alliance because the alliance was form to deliver on the recommendations out of the water security alliance and that came off the back of the last drought where we had communities that were running out of water basically.

So originally they were brought in to work at that strategic level and deliver that infrastructure that was needed, pipeline projects and the like. So off the back of that, the alliance actually started with the regional plan, so we did regional drought, regional demand, regional IWCMs, all those sort of regional level plans, whilst also running programs that enabled the individual members to do those plans as well.

So they were doing them and then the regional plans were sort of the end result. So we also did regional training and mentoring plans, regional resource sharing plans. So all that planning stage was done upfront. Then we got into the operational side of things which was delivering on the recommendations in those plans, and so that's, sort of, where I started and so what I've been doing since I've been on board, is really delivering on those initiatives that were in there.

So that includes a lot of asset management, so regionally procuring programs like pipelining, smoke testing, CCTV assessments. So looking at assessing assets and then working out what we would then do to manage them. So we have a five year procurement plan that we run with and that five year plan, obviously we look at it every bi-monthly alliance meeting, we look at that plan and we determine what our priorities are across the region, and not everyone buys into it, but I have to tell you, nine times out of ten I might get eight councils who say "Yes, I'll definitely put my hand-up to be party to that contract", I always leave the contracts open now. I write the other councils in because I can tell you by the time we've got halfway through the contract, they're all looking over the fence going "Oh, geez, maybe we should have been doing that too" so they all hop on board at the end.

So I think you are right. But I will probably recommend you do the regional planning side of it first and from my perspective, because I straddle the two areas within Centroc, because I've got that sort of board function which operates at that, sort of, higher arching regional level and the operational side of things, I see very clearly that those two things, they have to go hand in glove. You can't have one without the other, because one informs the other. I couldn't be here today if I hadn't had the experience at the operational level, watching what my alliance members are doing and knowing what they're experiencing because that informs the advocacy that we then run through Centroc.

COMMISSIONER DOOLAN: So in that regional procurement, are you moving to joint energy, insurance - - -

MS MACPHERSON: Absolutely.

COMMISSIONER DOOLAN: All of those?

MS MACPHERSON: Absolutely. Energy – we had a community energy efficiency program grant, that was the \$4.5m grant that we got a few years ago. It was matched, so the

total budget was \$4.5, it was \$2.1m whatever from the Federal government, and when we – that was actually an energy efficiency grant. It was the nexus between water and energy, so what we were doing was looking at how to reduce the costs of pumping water because, as you know, it's an enormous cost. In fact, councils like Parkes spend millions of dollars every year pumping water and it's a cost that they just can't – I mean, they have to do it, they've got to pump water.

So that particular program had half a dozen projects within it. Now, councils were able to opt in if they wanted to. All of them were involved in pipe relining which was to reduce the inflow into the system and then ultimately reduce the pumping. We then did a whole range of things like we developed a water loss management tool kit which we're about to roll out across the alliance, once again to reduce that pumping caused by water loss and the infiltration into the system.

So that was a huge amount of work, and now we're building on that. Centroc as a region has got a huge focus on energy. We've got an LED street light program running at the moment, and we're about to – at the moment we've got site inspections going on around water treatment plants and sewage treatment plants where we're assessing the options to do battery storage, whatever. So it's a huge project that's on at the moment and regionally wide, we've got, you know 14 members attending meetings where we're looking at site assessment for further programming. So yes, it's a bit one.

COMMISSIONER DOOLAN: So then, it would be possible not just to have the data that's starting to show improvements hopefully as a result of the alliance, against the DPI indicators, you'd possibly be able to give us a few case examples where the costs to customers have been reduced because of regional procurement - - -

MS MACPHERSON: Oh, absolutely.

COMMISSIONER DOOLAN: I think that would be very helpful.

MS MACPHERSON: Yes. No, we can certainly do that. It's interesting because it sometimes takes time – well, it always takes time. For example, with the community energy efficiency program grant, and this is where these sorts of grants are tricky because we're always at the, sort of, cutting edge so we're doing things that we're not entirely sure are going to work, but we've just got to have a go and have a crack at it, and there are a lot of benefits achieved on the way.

With that particular grant, for example, within the period of, you know, the funding program, you have to equip and provide evidence of the outcomes. Well, energy efficiency stuff, you can't just do it – it takes time to actually find out what the benefits are and to do the analysis and find out how that's actually benefitting the customer at the other end.

So with that particular grant, it's only really been recently where I've started to see some really strong results coming out from things like manhole replacement. A simple little exercise and in fact, I think the operator who said to me, "Oh, we're seeing some great improvements", didn't even realise that I've been waiting for that advice to come through. So now that's informing further manhole work around the region because we're starting to see that as an option for some quite good results.

So I can certainly have a look at what sort of evidence there is and provide that feedback.

COMMISSIONER DOOLAN: That would be very helpful. Do you see any limitations to your current alliance model?

MS MACPHERSON: Yes, I do, but they're in the institutional arrangements that currently exist. My problem is, as you know, Centroc is a regional organisation of councils, is a section 355 of Forbes Shire Council. That's how we're set up.

COMMISSIONER DOOLAN: Okay.

MS MACPHERSON: So through the whole – we were a fit for the future pilot regional organisation through the New South Wales government, sort of local government reform program, and our primary interest in that was to enable us to do the regional procurement within our own right. You see, it is very difficult for a council like Forbes Shire Council which is not a particularly big council, to take the risk on regional contracts because we're asking them – and was certainly the case during the community energy efficiency program work where they had to bear the risk for 13 member councils doing millions of dollars' worth of on the ground operational work.

Now, we've done that for a long time and we've got very strong governance around all of our processes and good contracts and all of that sort of thing, but it is a limitation and something that, you know, we've really been fighting for through the fit for the future process, to, I don't know, be a corporate entity, be a joint organisation, or whatever that institutional arrangement will be, to enable us to do what we do.

COMMISSIONER DOOLAN: So the potential next step would be some form of joint entity?

MS MACPHERSON: Yes.

COMMISSIONER DOOLAN: And currently it's difficult or impossible to do.

MS MACPHERSON: It is. No, it is not impossible, we do it. What I'm doing now is where we have contracts that are for regional planning or, where there's no risk associated, so auditing, drinking water management programs, I can do those through Forbes Shire Council. Where it's more operationally based, we will procure regionally and we do see great cost savings in that. I mean, it's something like – I think we conservatively estimated it's about \$15,000 – it saves the council \$15,000 in the whole procurement process, that's just the tendering and the advertising and the assessments and all of that.

So we can still do that as a group and scope out tenders regionally together and all of that, but where the problem lies – sorry, with the actual contracting, I now get individual councils to sign them. So we procure but then councils actually have the contract. So it's just adding to the governance, and you know, adding to the paperwork and what have you, when it could be so much easier.

COMMISSIONER DOOLAN: Administrative costs.

MS MACPHERSON: Yes.

COMMISSIONER DOOLAN: All right.

COMMISSIONER MADDEN: Just on that.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: As a follow-up. Are you aware – is New South Wales government looking at any reforms in this area to enable – just on that specific issue to enable joint ventures and the like or organisations to do - - -

MS MACPHERSON: They keep telling me it's early days. I'm not sure how long it takes to be – early days. So look, we don't know. It's been what, 12, 18 months since we went through the pilot program and we've been optimistic that we would hear about joint organisations and interestingly enough, we occasionally hear about funding programs, for example, the safe and secure funding program actually has JOs written into the eligibility criteria, but we just read that with a very positive outlook and hope that they know something that we don't know.

So not at the moment, but having said that, Centroc is looking at a whole range of corporate structures in the event that that doesn't happen.

COMMISSIONER DOOLAN: So I did want to pursue funding.

MS MACPHERSON: Yes, the funding, yes.

COMMISSIONER DOOLAN: The funding model, and in particular, the role of government subsidies.

MS MACPHERSON: Yes.

COMMISSIONER DOOLAN: And the type.

MS MACPHERSON: Yes. We read with great interest the recommendations around community service obligations, and I will make some comments about the funding framework in New South Wales. It is something that we have been advocating about for quite a long time. I think, John, you may have seen a presentation at the Broken Hill conference about the regional prioritisation of infrastructure that we're doing. So Jane, just for your benefit, we have a matrix and what we do is, we have taken all the funding guidelines and picked the key criteria out of those, you know, they are the same recurring themes, you know, economic development, regional growth. Decentralisation. Employment, whatever.

We've put that into a matrix and we've weighted various things and now we've been through a process across the region where we've asked all our members to input their priority projects for every stream from water infrastructure, community, energy, transport, and the result being a list of 85 regional project prioritised. So these are the projects that the region agrees are our priorities. We're finding we're getting great traction out of that. I've just re-run it and I've got 66 projects at the moment that are sitting there about to be prioritised.

We've taken that approach because what that enables us to do is when – it makes us a little bit more funding ready and we can cut and dice the matrix depending – we can turn weightings up and down to pull out certain projects. For example, with the increasing sort of regulation and ideas about health based targets in drinking water management, I would be in a position, in a little while, I would hope, to be able to dial up the drinking water project so all the water treatment plant projects that are a high priority, will rise to the top if that particular pool of funding is something that we want to apply for. So we're seeing real benefits in that and it's real benefits in the collaboration across the region in discussing what our priorities are.

So as a region, we are really on top of what we need. Unfortunately, when it gets to the funding, it doesn't quite work like that. The issue that we've got is that in New South Wales, you know, the benefit cost – well, everyone where, I suppose – the benefit cost ratios are driven by population and the economy, so the projects need to meet that New South Wales treasury BCR requirement and the ones that tend to get funded are the ones that are in a place where there's a higher population base such as around western Sydney.

So all the projects are assessed in that competitive round and ranked against each other within that sort of paradigm. The problem we've got with water projects is that the provision of safe water, safe and secure water's a basic human right and subject to ever increasing standards, and for many of our projects, particularly in some of our far western reach councils, they're never going to get a BCR of one to meet the treasury guidelines for funding because the population base that they serve is too small. So you know, a water treatment plant in a western New South Wales town with a population of under 2,000 is not going to stack up against a project with, you know, much greater population base.

So in our view, the funding framework, certainly in New South Wales at the moment, is not optimised as it's not developed with local government or with an understanding of its variable capacity. We've also got concerns about the fact that induced demand is not adequately considered in the funding framework. So this, sort of, ultimately leads to more of the same as a result of progress informed by looking backwards if you like. We know that our councils have the ability to deliver projects, though they experience constraints especially where they need to spend significant money making the case for investment from state funding programs under the current guidelines, and while regional support and collaboration helps manage some of those constraints, particularly for the smaller or less well-resourced councils, as a general rule our councils are really limited in increasing sustainable revenue in regional areas, given the rate cap, jobs that they're given by other levels of government and the tasks that for a local government in regional New South Wales they have to undertake: swimming pool, managing airports, you know there's so many things that go to local government.

So councils are currently expending a significant portion of revenue on renewal expenditure on ageing infrastructure around things like pools, water and sewer, and compounding this is that negotiating special rate variations is just absolutely tortuous for some members saying that now, they're getting to their end of the ability to match their funding.

So we've really advocated strongly through other enquiries and reviews for rural regional dedicated funding and for funding programs that recognise the role of local government in regional Australia, and given that drinking water, for example, is not a discretionary activity, you know, the proposal to improve the efficiency and quality of service provision in New South Wales by targeting government funding or subsidies to provide us with greater needs or service challenges, including through a CSO arrangement is certainly of interest – and you know, we'd be interested to have more discussion around that.

In any case, Centroc advocates across everything we do at the moment. You know, if you're going to make structural changes to anything, including the framing framework, State government needs to engage with local government to co-design the solution that's actually fit for purpose, it suits the needs of the communities on the ground.

COMMISSIONER DOOLAN: Okay.

COMMISSIONER MADDEN: I will just ask to clarify one thing.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: The comment about induced demand.

MS MACPHERSON: Induced demand. I knew you were going to ask me about that. So you may be aware that at the moment – I will give you my great example. The Lachlan catchment has been identified as a high priority catchment. We saw what happened during the millennium drought. We had towns where they were talking about pulsing the Lachlan River to get water to Lake Cargelligo. It's a huge emotive issue in our region and as things are drying up at the moment, it continues to be a highly emotive and people are really concerned.

So the State government has thrown a lot of money at the Lachlan water security investigations which is into phase 2 so they're looking at options to improve reliability and security, not only for town suppliers, but also for other uses, so we work very closely with Lachlan Valley Water and other landholder groups to – because obviously it's in our interests that agriculture survives and it's in their interests that towns don't die, so we work very closely.

We've just been through a process where they've done a willingness to pay survey, but what's not included in that process is looking at, for example, the mine. We've got a mine that's looking to – another mine that's looking to set-up in the central tablelands area. The only reason that they're not able to do it is because they don't have access to the water, so I did read with interest your comments in the draft recommendations around extractive industries because it is a big thing for us.

Even though that mine, we know, would generate huge GDP, jobs and what have you in our region, it can't be considered in the willingness to pay survey. So any of those things that we know may happen if we had greater reliability and security of supply, are not included. So it is interesting because we often get asked "Oh, well, what would have happened if" – you know, "What would happen if you had reliable supply", and it's difficult for us to say "Well, we know this business would come" or "That business would come", but at the end of the day we know we have this one great example with the mine where we know that they would come at a heartbeat if they had access to water. It would change the willingness to pay equation considerably.

COMMISSIONER MADDEN: You might have someone with capacity to pay as well.

MS MACPHERSON: Exactly. Yes.

COMMISSIONER MADDEN: I actually just want to step back a little bit and you mentioned being at the LJ conference in Dubbo.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: So it might be good rather than your view, but ask about the views at the conference in terms of extension of this kind of model across the State - - -

MS MACPHERSON: Were you there?

COMMISSIONER MADDEN: I didn't make that one.

MS MACPHERSON: Okay. I just thought I'd check before I make comment.

COMMISSIONER MADDEN: No, I wasn't there. And again, this isn't about whether it should happen et cetera.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: But just what's your feeling and you said people came and talked to you, just what's that state of play and – we know alliances in the Lower Macquarie are happening.

MS MACPHERSON: Yes.

COMMISSIONER MADDEN: Are people actively looking at this in other areas or?

MS MACPHERSON: Namoi have recently started an alliance and I've noticed – I've had a few phone calls from Namoi. They're obviously starting to pick up the alliance model. They've called me and asked me what should we focus on first, and I always say "drinking water quality and training of operators to deliver drinking water quality". Training is a huge area.

So I am aware that they are. I get quite a lot of phone calls of people, sort of, asking me for tools and you know, "What have you got that we can use?" "What's the governance structure?" So there are – I mean, I see that there is interest. Certainly if you take into account Lower Macquarie's membership which has extended over the last 18 months to encompass further in that sort of northern region. I think they're now up to 12 members. We've got 14. So there's 26 across the State than Namoi. We are currently representing quite a large proportion of the State. The coastal councils I'm not so sure about. But certainly for inland New South Wales, I think there's a great interest in what can be done .

COMMISSIONER MADDEN: Yes. Are there any risks you see with this organic approach?

MS MACPHERSON: With our - - -

COMMISSIONER MADDEN: No, not you, but talking, I guess, institutionally across the State. I mean, is it something that should be a bit more active on behalf of the State or is that something that should be - - -

MS MACPHERSON: What to drive the formulation of alliances?

COMMISSIONER DOOLAN: Yes, to drive and encourage - - -

COMMISSIONER MADDEN: Encourage might be a better word than alliance.

MS MACPHERSON: Encourage. The tricky thing that I see that's going to happen with alliances is that they are so dependent on having champions. Now, Centroc just happens to be – we might be an unusual beast. We are different to Lower Macquarie. I mean Lower Macquarie was set-up as the first organisation. They were set up in a very different way to us. They were set up with a larger council being Dubbo supporting those smaller councils out the back who were really, really struggling. So they have a slightly different relationship with their membership base. Maybe a little more parent/child. I am not saying that that's not working for them. I'm seeing it's working very well and what they're doing is they're bringing in consultants to run facilitated programs in areas like asset management which is working a dream for those smaller councils.

My alliance is different. Where we've got members who are probably on an equal footing and the reason we work well is because Centroc's been very much based, as an organisation or as a region, on collaboration. Now, I'm very fortunate in that I have a chair who gets that. Andrew's very regionally and strategically focused and I also have an executive likewise, made up of a combination of smaller and larger councils. They get it. That group, that core group, is what drives what happens in our region, and look, even through the period of local government reform where there's been so much churn in the sector, I'm still congratulating myself that I get at least a dozen people to every meeting. Now, to me that tells me that they're getting something out of it. So it is working for us.

But what works for us, might not necessarily work in Namoi. They might have a different set-up and that's where, I suppose, you know, we've always said one size does not fit all. It's up to each region to determine what's going to work well for them. This is a model we think works. It works with us. We've got tools. We're happy to provide those. We're happy to give guidance. We're happy to help with, you know, ideas about how to generate the interest. But at the end of the day, it comes down to that membership base and the willingness and the – and I guess this is where we come back to the demonstration of the benefits. I think the more we can demonstrate that there are really good quantitative – or you know, the tangible evidence of what you get out of an alliance, I suspect that might help generate a bit more interest.

COMMISSIONER MADDEN: Yes.

COMMISSIONER DOOLAN: Are there any final comments you would like to make?

MS MACPHERSON: I'd like to make just one comment about water resource planning.

COMMISSIONER DOOLAN: Yes.

MS MACPHERSON: Just from Centroc's perspective. This is an area that we've been particularly interested in for a while. We have really struggled to get local government representation on things like stakeholder advisory panels in New South Wales to represent local water within the water resource planning processes. It has taken us probably 18 months to actually get somebody on there, even though within the material that DPI distribute it says "We're in there. Local communities are consulted".

Now we are there. I've just got a representative onto the Lachlan Valley Water resource planning panel. Now we are there, the challenge for us is to enable the risks and issues that are being discussed, to be presented in a way that is understandable for local government. There's a willingness, there seems to be a willingness for us to be there and we certainly want to be there because it's all about that triple bottom line and for us, you know, about agricultural community dies and that's a massive issue. Meanwhile if our town doesn't have water, that's a huge issue and if our industries don't have water, that's a huge issue.

So we're in it for that triple bottom line but where the challenge now lies is in getting that information in a way that enables us to engage and I see that across a lot of this water planning area. We really want to be involved. There's willingness but they still don't know how to talk to us.

COMMISSIONER DOOLAN: Okay. But it took a while for your members to actually be invited to attend or be part of those? They were not a natural - - -

MS MACPHERSON: They should have been because if you'd read the websites and you read the material that's sent out, it says local government is a rep.

COMMISSIONER DOOLAN: Okay.

MS MACPHERSON: But no, it took quite some time and now, you know, we're presented – and the same with things like surface water planning, ground water planning. So with ground water resource planning processes, we've been given this massive – like "Here's the risk paper". Now, for someone like me who is providing that sort of input and advice back, it's not in a format that I can really – it's very inaccessible. We have to go back and say, "Look, that's great but what are the implications of this for regional communities? What are the risks? How do you interpret this?"

Now, the main reason we've had some inroads in the Lachlan Valley is because we've got a terrific relationship with Lachlan Valley Water. We've got a communique with Lachlan Valley Water. We work very closely with them and I can ask them to interpret things for me, but at the end of the day what we want to know is what are the issues and risk for town water supply, firstly? And what are the issues and risks for our agricultural and industrial community and also obviously for the environment because all of those things are, you know, fundamental to our region.

COMMISSIONER DOOLAN: Thank you for that. Okay.

MS MACPHERSON: Thank you. So the question that you asked me earlier will be noted in the transcript, will it, so I can respond?

COMMISSIONER DOOLAN: Yes, it should be.

MS MACPHERSON: Yes. Okay.

COMMISSIONER DOOLAN: Excellent. So we look forward to receiving your submission.

MS MACPHERSON: Yes. Thank you very much. Thank you for the opportunity.

COMMISSIONER DOOLAN: Thank you.

MS MACPHERSON: I think it is an amazing bit of work that you've done – oh, good work, I think.

COMMISSIONER DOOLAN: Thank you.

COMMISSIONER MADDEN: Thank you, Meredith.

COMMISSIONER DOOLAN: A quick ten minute cup of tea. And then we will continue with Bradley Moggridge.

ADJOURNED [10.09 am]

RESUMED [10.24 am]

COMMISSIONER DOOLAN: So, Brad, can you just confirm that's who you are, for the record, and give us an outline of your thoughts.

MR MOGGRIDGE: Yes.

COMMISSIONER DOOLAN: Thank you.

MR MOGGRIDGE: Thanks for having me. My name is Brad Moggridge, Kamilaroi man from Western New South Wales. Live in Canberra. I am currently doing a PhD at the University of Canberra, at the Institute for Applied Ecology and previously I have led the Aboriginal Water initiative at New South Wales DPI Water for nearly five years up until 2016, last year, when I moved on, and now doing a PhD because I thought it was an opportunity to strike and my area of interest is Aboriginal knowledge of water, but also how it can influence western water management.

COMMISSIONER DOOLAN: Okay. So, in terms of the report, are there areas of weakness or strengths that you would like to draw our attention to?

MR MOGGRIDGE: I suppose from my point of view, Aboriginal people rarely get a voice in a lot of these sort of big debates and from what I saw there were some excellent bits of the reports, some good recommendations, some good clarification but really what I saw was New South Wales got off lightly.

COMMISSIONER DOOLAN: Okay.

MR MOGGRIDGE: For the damage they caused from an Aboriginal point of view, Aboriginal engagement, Aboriginal employment, Aboriginal opportunities in water, they got off very lightly and I think it's - it's all to a point coming to a head at the moment, like it's quite a hot topic and I think it's a good time to strike now. Yeah. And obviously my opportunity here to raise that aspect that, that was missed in the report. Yeah.

COMMISSIONER MADDEN: So just on that, we did get some good feedback about New South Wales activities. So before we talk about missed opportunities in New South Wales, can we actually just ask what are some of the things, while you're in a position for five years and not your performance, - - -

MR MOGGRIDGE: Yeah, yeah.

COMMISSIONER MADDEN: But just on a wider perspective in terms of that initiative, what are the things that worked well; what are some things that maybe didn't work so well, before we then move on to, I guess, some of the lost opportunities in terms of what you see as a diminishing effort in that area. So it would be good to reflect and get some lessons from your time working in the area.

MR MOGGRIDGE: Yep.

COMMISSIONER DOOLAN: Particularly if you would - because New South Wales was seen as an early leader in this area, and whilst in recent times, of course, there's been a bit of a drop away, I must say until recently I hadn't realised how significant that had been, and that has not come through in submissions that we have received. So, it would be good to understand that a little as well.

MR MOGGRIDGE: Yeah, sure. A bit of the, a bit of the history. Water is a complex language and we all know that and it's hard to understand. So for - when water was given away with land in the early days, Aboriginal people were not human, so they weren't - they were flora and fauna. So when we became human, all the good land and good water was gone and at one point all the water - yeah, the water, they'd given away too much so they had to structurally adjust back to bring back what water that should be flowing in the river. So at the moment Aboriginal people if they want water they've got to buy it. And when they say, you know, that it's hard for elders to understand that because especially - well even when the

NWI kicked in and land was - land and water was separated as two separate entities, Aboriginal people couldn't understand it. You know, the elders can't understand that, for starters, and now that it's a commodity it's, you know, it's market driven and if they say, "We want water to catch a fish, we want water to potentially build economic opportunities, but we've got to buy that water", and that that's the bit they don't understand.

So with the National Water Initiative, New South Wales had the Water Management Act, so it's quite strong in its objectives for Aboriginal people, some very strong objects of that Act and also their principles are very strong as well. So there was a great opportunity for New South Wales to take the lead because it was one of the few Water Acts that mentioned Aboriginal people upfront and gave them opportunities in the water space. And in 2011 some senior staff applied for funding through Closing the Gap, which New South Wales got through Treasury and then - well then the Office for Water applied to Treasury to get funding. So it was 1.69, 1 million per year to build over three - over three - three - well it ended up being four years - to build an Aboriginal water unit and to help New South Wales meet those objects of their Act but also engage or re-engage Aboriginal people in water.

So previously in the Water Management Act there was water management committees and Aboriginal people had a seat at that table, but a lot of the times they would turn up and there'd be talk about modelling, there'd be talk about, you know, complex discussions which those elders didn't really understand. So those elders stopped turning up to those water management committees and they never worked. And, so what happened then was the Aboriginal water initiative came about through the funding and we were successful in getting the money.

I was employed as the then program manager. I had a senior project officer and two regional coordinators, so north and south New South Wales, so we cut the State in half, and we built some governance aspects around the program on how to do business, not only with ourselves but also with the community, and then how we were going to collect information that could be protected as well. And so what we did was, we also then employed some facilitators, so with the money we had. They were regionally based, local community people, so we had to build their capacity to understand water. And most of us in the sort of the senior roles in the division sort of have an understanding of water. So we'd been in water, we'd, you know, been part of water management communities or research or knowledge, so there was - the opportunity was there to build on that. And then the facilitators were coming as - we wanted people that could engage a community; it had their - had credibility but also could build the respect and then also sell the idea of what we were trying to do.

And we employed four facilitators in the end. Then we got some money from the Basin Plan implementation, so we received two positions for that under basin planning. And then we'd advertised another two positions under basin implementation and then that's when the new leadership kicked in and those positions have still not been settled yet, those two positions. Those applicants haven't been told. So that was mid-2015. We advertised - and they haven't been told by HR whether they've got the job or not. So that's still hanging there. We know who the candidates were. You know, that we had preferred candidates, so that was quite unfortunate. And the other two employed under the Basin Implementation Plan, they were actually just told, "Your contract is up", even though they were employed under a contract until 2019 to help with the Basin Plan.

So we lost - and then what happened was, the leadership decided that - from my point of view they just didn't want us there. It was sad to watch because there was - the senior managers above me, they were being treated in a way that I thought was inappropriate and I thought - they got rid of them and I was next, my level was next in line. So that's when I left in 2016. But what we'd achieved was we had a governance structure. We had a database that we'd established. So we'd built it up so - Aboriginal communities don't like government and they don't like databases. We had both. So, we had to sell that as a prime opportunity and that was number one, to try and influence communities. So our main aim was to work with knowledge holders, build their understanding of what their opportunities were and their - well, their rights to a certain point of view, and then work out the knowledge holders who would then be - you know, who would sign an agreement with us and that agreement would be that they would provide knowledge if they were wishing to on their cultural values of water. And then they'd sometimes provide more, sometimes less. And we'd had a report card that we'd fill out on each of those value sets and then we developed a database called the Aboriginal Water Initiative System and so that's mentioned in a couple of the flood plan management plans and also some of the water sharing plans. It's also mentioned in the cultural flows research.

So what it was, was a database that was login protected, so only the Aboriginal staff can log into it. And then there was security settings within the database that had men's and women's business, so the men couldn't see the women's stories and vice versa. There was also highly - another highly secure level that if someone wanted to tell us a dreaming story but they - they knew it wasn't going to go to the next generation because there were some issues there, they would get us to record it and have the next of kin, if the elder told us that story. And so that would sit right at the bottom of the database which no one could access, until that point where the next of kin was ready to accept that, that knowledge.

So that database was there. We then had - once we - we worked this through on the coastal water sharing plans and it worked. So we had communities engaged, giving us advice on the cultural values. It was then our role to determine what the water requirements were, or rules we'd put in place to protect those values. So some of those rules could be a flow requirement, so it could be a certain time of year. So if it was a regulated system we could generate a rule in that water sharing plan to order the water at a certain time and that water would be there for that; whether that's ceremony or an event, or whatever. Or we could put low flow requirements. So if there was a part of the river that needed a certain level, we could tell - well, we'd set a rule to say that - at that gauge we could say this level - this megalitres per day needs to be in place to maintain those cultural values.

We could also set buffer distances for cultural values. So that was around, say, groundwater dependent values, and they were, say, if it was a living scarred tree and it wasn't right next to the river, it was the edge of a wetland or - it's going to be ground water dependent. So it's highly significant, it could be scarred or carved and we'd put in a buffer distance around that. And so we had an agreement with licensing, so if a new - a new application for a bore come in, we could look at our database and say "That's too close". We wouldn't tell them where it was, but we'd just say, "Look, that's too close to an Aboriginal value" and say, "That's it, no, we're going to have to decline that". And then licensing was moved out of DPI Water, so then we had the - - -

COMMISSIONER DOOLAN: Over to New South Wales.

MR MOGGRIDGE: Yes, over to Water New South Wales, so that was another issue. We had staff who loved their job in regional areas and then were told, "You don't have a job anymore". So they'd been built up in the water industry; their capacity was built, they loved their job, they loved the engagement in the community. And being in regional areas a lot of those jobs weren't available, so they either had to move or change careers, and that was probably the disappointing thing. I have also been told that now ex-AWI staff are going for positions in DPI Water and they're being told not to mention the AWI in their interviews. Like they're trying to wipe us out of memory, so rewrite the history books again. And when you search up AWI and the Department of - well, DPI Water, "page not found".

So we had resources. We'd produced quarterly newsletters. We had videos. We had engagement processes. We had - and I'm still the contact there for AWI. So that they're misleading the community about who's involved at the moment. So we went from 11 roles; 10 identified Aboriginal positions to the new structure in December, to three positions in three different units. So the old divide and conquer kicked in. So they separated these three positions and, you know, the then leader, Gavin Hanlon, said he wanted his own principles were sound consultation but succession planning. So those staff will not have an opportunity because the grades they've set these three positions at, there's no progression opportunity. So they've set them at two 7-8s and one 11-12. So the 7-8s to jump to 11-12 is not going to happen. So they have - there's been one 7-8 filled, and she is isolated culturally but also - she was sent on holidays because she had nothing to do, and there's 22 water resource plans to consult on. And, so - - -

COMMISSIONER MADDEN: I wanted to get into that, the water plans.

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: It's really good to hear some of the detail about what was included in the coastal plans and I'm not sure, are you making a submission, do you think?

MR MOGGRIDGE: I'm going to have to.

COMMISSIONER MADDEN: That's fine. It would be good if we can get examples.

MR MOGGRIDGE: Examples, yeah, yeah.

COMMISSIONER MADDEN: Within those plans. Just direct us to those plans, to get those examples.

MR MOGGRIDGE: Yeah, sure. Yeah.

COMMISSIONER MADDEN: I was just going to ask in terms of going forward and revision of plans. What do you think are the key elements again that we can learn from in terms of that process?

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: Not just reconstitution of the original water initiative, which obviously is one option, but how would you go about thinking what are the key planks to actually include, particularly cultural values at this stage. We might move on to current development.

MR MOGGRIDGE: Yeah.

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: Separate discussion.

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: In those kind of revision of plans.

MR MOGGRIDGE: M'mm. What I - whenever I talk at a conference or whatever, one of the key learnings was if you want to engage Aboriginal people you employ Aboriginal people to do that engagement, because you break down those barriers straight away. Even though they - the community will still see you as government, but you'll have a different connection to that community. You know, it might be a family connection. And that's why we employed local people because they already had that respect in the community. So I call it "Government Aboriginal Engagement 101". Employ them, you know, that's the key. So, having three people that aren't engaging now, three positions that aren't there to engage because - what I should have said was I wrote to the secretary in November last year and asked how he justified the change management plan and got rid of the AWI. And one of the things was that he said, the AWI did a great job and one of their great jobs was making DPI Water culturally aware. So we had a cultural awareness training package that we funded out of our own program and we trained - made it compulsory so the then Commissioner David Harris made it compulsory for every staff member to do cultural awareness training. And so it was about 600 staff we did, all around New South Wales run different things, and that was one of the responses; that because all the staff were now culturally aware, Aboriginal values was mainstream now and so we didn't need Aboriginal staff to do that.

That went against the whole reason why we did cultural awareness. Was to build our profile but also get the non-Aboriginal people, the water planners and policy and legal to come to us and work out projects and work out ideas. And I think cultural awareness training is great but it was the down - you know, that was the excuse used for the downfall of the AWI. That was quite sad. You know, that was a highlight of our, you know, of changing the culture of a department. And from what I know the leadership, the current leadership haven't done cultural awareness training. So, you know, they just don't value that. So cultural awareness training is one, but also building the capacity of Aboriginal staff to help communities.

So at the moment they're putting Aboriginal people back on SAPs, so we're going back to the old water management days, water management community days, where they're putting Aboriginal people on these committees to - and they're sitting there and, you know, I got feedback from the recent Macquarie SAP and they talked about modelling and the water resource plan. They had an elder sitting there. Six hours they had a meeting for and the elder said, "Are we talking about water planning or the Murray River?" So the capacity of - for me, they're setting up these poor people to fail, again, and I think it's just not the way - the previous model was, the AWI was there to collect those values and then inform the SAPs. So we didn't have a representative on the SAPs but we would give submissions to the water planner on the SAPs. So now they've changed all that because of AWI, so they've got elders sitting on the SAPs now which is - which I suppose is a - they're seeing as a tick a box. They've ticked a box.

COMMISSIONER MADDEN: So just as a bit of a follow up but a different angle. Obviously water resource plans then have to go to the MDBA.

MR MOGGRIDGE: Yep.

COMMISSIONER MADDEN: Murray-Darling Basin Authority and go through a process.

MR MOGGRIDGE: Yep.

COMMISSIONER MADDEN: Are you aware of guidance material around engagement in cultural - specifying cultural values which are provided from the Murray-Darling Basin Authority to the states at all? Are they provided, or are you aware of any indication that they've given to Victoria and New South Wales, South Australia, Queensland, in terms of a good process for the water resource plan?

MR MOGGRIDGE: There was that engagement process under the NWI engagement module that was produced by the Department of Environment. It was how to engage Aboriginal people. So we were a part of that and helped drive that, and there was some - obviously AWI was mostly through it as best practice, as they saw it. But MDBA has a role there, and then you've got NBAN and MLDRIN who are the two Aboriginal advisory groups, so they're there to give advice to the MDBA on whether to, you know, accredit plans based on what the basin plan says. So its values, uses, objectives and outcomes, all that sort of stuff. So has the state done that satisfactorily enough?

So the pressure will be on those guys to make sure that they look through that, because at the moment New South Wales is going down a path of copying Queensland. So that model is employing one project officer or consultant, and they do the engagement around there and then hire out Aboriginal people to help out with engagement. So I'm pretty sure New South Wales is going down that path because I've heard that they're employing a consultant and at this point it's an Aboriginal consultant. Queensland have got a Kiwi, non-Maori, non-indigenous. So that was unfortunate but that's their process. Queensland has a lot less plans. New South Wales has 22. And I think MDBA has produced Aboriginal Waterways Assessment, so that was a guide to help out with communities, to take control of how they collect their values.

I was a bit - because AWI had its own, you know, structure and governance to do things, the AWI didn't consider groundwater, it only considered surface water. So in New South Wales there's 13 groundwater plans. So that wasn't really fit for purpose for New South Wales and unfortunately that - in the trial periods they paid communities to be part of that, and then when we went to engage those communities they didn't want to engage with us unless we paid them. So there was a precedent set, which is unfortunate, but I'm hoping that Aboriginal Waterways assessment does what it's supposed to do and it helps inform water planning.

They have their National Cultural Flows Research Program. New South Wales was a member of that, so I fought hard to be a non-voting member of that committee. So we became a member of that and then the new leadership deleted that opportunity, so no one was representing New South Wales anymore, even though the two case study sites are in New South Wales.

There is also the principles document that MDBA produced, I think it was 14A, I think - yes, 14A, so it was a position statement, sorry. So they produced that on how the states would be sort of viewed as part of accreditation around indigenous engagement, so Part 14, Chapter 10. And the principles talked about an Aboriginal submissions database. They would be assessed against that. So the submissions database was all the submissions when they were preparing the basin plan. So there was 400-odd submissions put forward to - when MDBA was preparing the basin plan, and - but states didn't have access to that database. And so we

couldn't see what they were going to assess us on. So if we went to a community, it would've been a good tool to have when we were engaging. So we could've gone to a community and said, "Okay, people from Walgett, you've said in the past this; you know, the yellow belly, the cod or this place is important. Is that still the same?" But we didn't have access to that database, and I'm not sure if states will have access to that database. Because it would've been - even though they're all public submissions, you could've downloaded all the public submissions and got all the - - -

COMMISSIONER DOOLAN: And recreated it.

MR MOGGRIDGE: Yeah, and recreated it yourself, so it was put into a database and - but we couldn't, we couldn't access those - well, it was itemised and it was itemised for key words and things like that, so you know whether it was a water sharing plan, a water resource plan, a river, a value set, things like that. I'm hoping that - they're also done occupancy use mapping. So there's been a fair bit of money spent on occupancy use mapping. So that's where they actually got an American Indian to advise on how to collect values with a GPS, and it was - what it was, was dots on maps of where they collected - where they hunted, where they had values and, you know, that would be quite a help for native title. But I'm not sure how that converts into water resource planning values and influencing water planning. They just released a video not long ago.

COMMISSIONER DOOLAN: This is probably - - -

MR MOGGRIDGE: Animation.

COMMISSIONER DOOLAN: Yes. No, no, I mean it's important to us. It will probably be - we'll have to go diving into this next year, but - - -

MR MOGGRIDGE: Yeah.

COMMISSIONER DOOLAN: We will have to go diving into this next year, so it's an important heads up for next year's inquiry. So we've heard about New South Wales and I understand your experience is mostly in New South Wales. But do you have any comments on approaches in the other states that you're willing to share?

MR MOGGRIDGE: Yep.

COMMISSIONER DOOLAN: South Australia, Victoria, Queensland?

MR MOGGRIDGE: I suppose when we first - when we were on the First Peoples' Water Engagement Council that devised the National Water Commission, you know Northern Territory had led the pack. So they were at a point where they had strategic indigenous reserves put aside. There had been a lot of research. A lot of money had been put into that and a lot of resources and a lot of information had come out on how to allocate water for. And that was around the consumptive pool access and there was - it was a good body of evidence but it - again, another cycle change and that was red panned. So that disappeared. Western Australia, as we know, hasn't done too much, or Tassie hasn't done too much. Queensland is - they did have opportunities when there was the Wild Rivers, and then that was repealed but there were reserves as part of the Wild Rivers process. But that was repealed and now they've gone down a path in the Water Resource Planning process of just having one person go out and engage communities. So they don't have too many plans, but it's their process at the moment.

Victoria has gone leaps and bounds, so they're committed in their Water for Victoria plan; 9.7 million I think it was in the end. Five million to set up an Aboriginal water unit. So I gave them everything that they could use, gave - I sat on the panel to employ their manager. So it was great to see that they were doing the right thing and they're doing it slowly and trying to do it correctly. And they also had another bucket of money for economic or opportunities in water, so that's still yet to see what they're going to do with that. So I, you know I commend them and I make sure - one of my key things was, even though you're in the legislation, you're in policy, you're in regulations, doesn't mean you're safe. So they had to entrench themselves to survive a change of government or leadership and that's what, you know, I felt we were fine because we're in the legislation. Victoria is doing great things. There's some great cultural flow stuff happening in North Central CMA and a couple of other CMA areas, and that's great to see.

ACT, they got a few Aboriginal Waterways Assessment sites done under MDBA but I'm not sure how that will influence. And I think that - that was some of the things is, you might have all that information, but how does then the community take that and then, you know, write a submission to influence water planning? That's a big difference compared to collecting it all.

Northern Territory, with a change in government, had a draft discussion paper on Aboriginal - strategic Aboriginal reserves, so they changed the name. So we are yet to see what happens with that.

South Australia and Victoria are now talking treaty, but I really hope that includes water. If that doesn't include water, then I suppose there's not much use for me. Or, you know, some of the communities that live on rivers, it's not going to be much use for them if they don't include water.

Nationally, I believe - we may have moved forward, but in my point of view New South Wales has gone backwards to the 1960s. You know, that's been quite sad, yeah.

COMMISSIONER MADDEN: So, maybe to finish off in this area.

COMMISSIONER DOOLAN: Yes, sure.

COMMISSIONER MADDEN: Before we do move to economic development, if you have any comments in that area. In terms of our recommendations, they're broadly positive. Is there any specificity or improvement or gaps that you see in our recommendation? Or is that
- - -

MR MOGGRIDGE: No, no, look, I was - I was - it was comforting to read that a lot of the things that have been said before have been said again, but I suppose it's making the states and territories accountable now for not doing anything. That's the big thing, is how can you make them accountable for not doing anything? You know you can name and shame but they'll just go, "Oh yeah, whatever. We'll just keep doing what we're doing".

There's no opportunity for indigenous people to have a say at a national level. So there's no peak body. The Department of Environment has the Indigenous Advisory Committee, which is under the EPBC Act, but they don't have water in their - they're trying to push for water in their business, because that's our only opportunity at the moment. Native title will rarely provide water for people. It will just give them cultural access, and New South Wales at the moment doesn't have an opportunity. It has it in their water sharing plans around access for native title, that's part of the - also the clauses within the National Water Initiative, but they

don't have an access to say, "Well, how much water is that?" And all their - most of their water, except one I think, most of their water sharing plans say native title water is zero allocation. So they've obviously got to move on that.

What I'd love is a think tank or a centre of excellence for water, or a - because in that space we don't have a go-to place for indigenous water aspects because it's - it doesn't, you know, it just doesn't exist. And a lot of the CRCs are gone and things like that. There's a lot of the funding opportunities gone. There's no Aboriginal water strategy at a national level. So there's - yeah, we don't have a strategy. So I think you - you recommended that there be a committee established to give advice on the changes or the future of national water issues, so that would be a great start to set up that.

But, I suppose, what we saw with the sunset of NWC setting and also the First Peoples' Water Engagement council moving over to the Department of Environment, they had the Indigenous Water Advisory Committee, then a change of government and all committees were wiped. So that was the end of that. And I think there's - there's opportunities there to give advice but, you know, the First Peoples' had a draft - you know they had a policy statement and a framework set up. They'd had a paper done on indigenous water fund. You know, that is missing as well. So there was no appetite whatsoever for that sort of thing. So potentially a percentage of licensing activities could go into a bucket. So like what the Land Rights Act did for land, we don't have that for water. So because we're fighting for water, we don't have that opportunity. Aboriginal people in New South Wales say - we say is dirt rich because they've got land under the Land Rights Act, which is the land that no one else wants. Some of them got water licences under that Land Rights Act when they were combined, but now if they want water they've got to buy it. So they're potentially dirt rich, money poor, and they can't buy water if they don't have the money. Yeah.

COMMISSIONER MADDEN: Well I guess, just moving on to that because that obviously segues straight into economic development.

MR MOGGRIDGE: Yeah.

COMMISSIONER DOOLAN: Yes, that's right.

COMMISSIONER MADDEN: Which is the overarching message.

MR MOGGRIDGE: Yep.

COMMISSIONER MADDEN: But do you have anything more to say in general about water for economic development? And then I guess also what's the associated activities. I know in Northern Territory part of the discussion is about tradability of strategic Aboriginal reserves.

MR MOGGRIDGE: Yep, yep.

COMMISSIONER MADDEN: We also heard issues of, I guess, risk, even permanent trade.

MR MOGGRIDGE: Yeah, yeah, that's right.

COMMISSIONER MADDEN: And people not understanding - - -

MR MOGGRIDGE: Yeah, yeah.

COMMISSIONER MADDEN: The ramifications of that. So I guess just that associated effort as well, if you have comment?

MR MOGGRIDGE: Yeah look, the Northern Territory model under the SIRs was a good model because it - you know the NT was at a point where they'd agreed on - or to a point on how they were going to do it. So, you know, it was - they were looking at a number as part of the 20 per cent of the consumptive - well 80/20 is the way they work, I think, from memory.

COMMISSIONER DOOLAN: Yes.

MR MOGGRIDGE: Eighty for environment, and they actually include culture in that 80 per cent, and 20 per cent was for consumptive pool. So the Aboriginal people were getting under the SIRs a part of that 20 per cent of the consumptive pool. But then they go away and then work out their own governance on how they'd manage that, and that's the right thing to do, you know, that - whereas in New South Wales there's average or community development licences, so they're in the plans, and - - -

COMMISSIONER DOOLAN: Yes.

MR MOGGRIDGE: But there are strict rules on what you can and can't do, and there's also the cultural access licences which were there as well, and there's strict rules about what you can and can't do with those. And they were never taken up because we would have loved the Aboriginal Water Trust when we were there, because - we got the fees removed for Aboriginal Cultural Licence activities, so the specific purpose licences. The AWI went to the Commissioner, went to the Minister, went to the Treasurer and they actually removed the - all the fees relating to cultural licences, which was fantastic. So that was a good opportunity but then, you know, they were scared that there'd be thousands of these applications. But when it comes down to it, communities - you go to the community and say, "Look, you can get some cultural water pre the fee waiver, but you've got to pay about 600 bucks in fees to get 10 megs, and then you've got to pay per megalitre when you pump it, then you've got to have storage, then you've got to have pumps, then you've got to have diesel for the pumps". So that's - it was never going to happen. And so once we got the fees reduced, the idea was that the AWI would collect these values and assist the communities develop these; whether they were strategic, whether they were community development licences or the cultural licences, to apply then and then they'd get water for the - whatever they need it for.

But economically, as I said earlier, if you want water you've got to buy it. You know, at the moment in fully allocated systems you can get a zero allocation licence; you pay an annual fee and you've just got to wait for the water to be available. You go to a water broker and say, "I've got money. I want to buy some water", and then they'll find you a valley.

But I think there's - it shouldn't be - it shouldn't be up to any government or legislation to tell Aboriginal people what to do with their water. It should be entirely up to them to govern their own business. You know, whether that's, you know - I did some research when I was at CSIRO and you sat there with two community members, they were cousins, they were related. One said, "If I had a cultural - if I had an allocation I'd leave it in the water. At the right time of the year it'd come down and it'd help fish spawn, and then I'd catch a fish and get a feed". The other one said, "I'd put it in this billabong out the back of - back of the river and generate fingerlings to then sell back to DPI, to then restock the rivers".

So, you know, it all depends - it's not - it's not what a government should be saying, that you can't trade or you can't sell, but that is the danger that the - if communities are aware of what they're entitled to, if they do have an allocation, they don't know, they're just paying the fees. They just pay the fees and then 'the don't use it, you lose it' might kick in eventually and they'll get restructured down. But if they want to use it, then they need the capacity to understand how to use it, and that's missing as well. There's no one to help them understand now that, you know, the AWI's gone or - Victoria might be in a better position now to give advice on how they use their water. Some of the land councils that did get - receive water, they are now trading on the - you know, they're temporary trading. So they're generating revenue from their water licence to build up their, you know, their resources and their capital, to then potentially look at on-farm practices. So that's entirely up to them. Yeah.

COMMISSIONER DOOLAN: But they do need, at least in the initial stages, some supporting mechanisms to just point out or help utilise some of those opportunities.

MR MOGGRIDGE: Yeah.

COMMISSIONER DOOLAN: Okay.

MR MOGGRIDGE: So when you talk to communities, they're unaware that - you know, we'd have a list of licences and because there's no identifier on a licence application, like they don't tick a box to say "Aboriginal community" or "Aboriginal", we'd done a survey of all licences to understand who had what, and it was just really a few targeted words. There would be "cultural, native title, Aboriginal, land council", so it was just targeting those licence names. And then we might go to a community and say, "Do you know you have a licence?" "Nah, no idea". And so - they said, "Oh, we've just been getting these bills", and that was just to maintain the licence. So, when you then tell them what they can do with that water allocation they're really surprised, and then some of those - the land council were then putting them in their community business plans to then generate business opportunities with trading that water. And a lot of them knew that if they sold it, once it's gone it's gone, that's it. Yeah.

COMMISSIONER DOOLAN: Yes, okay.

MR MOGGRIDGE: But - yeah.

COMMISSIONER DOOLAN: Do you have any further questions?

COMMISSIONER MADDEN: I guess just one, and it's been really good to hear a lot about the operational side.

COMMISSIONER DOOLAN: It has.

COMMISSIONER MADDEN: In terms of the actual steps, the cultural values identified and, as you said, actually put into place.

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: Just with this economic development and given where I'm from, in terms of knowledge in the Murrumbidgee and the like.

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: I just wonder if you've got any broad comment, not necessarily the Murrumbidgee because you know it's across New South Wales and others.

Where you've got different communities, because like every community, Bowral's totally different to kind of Gundagai or Wagga.

MR MOGGRIDGE: Yeah, yeah, yeah.

COMMISSIONER MADDEN: Another area. And how you go about a discussion of, I guess, allocation of licences to different communities when they are distinct.

MR MOGGRIDGE: Yeah.

COMMISSIONER MADDEN: Is that just community by community? Because often water managers treat the river as one.

MR MOGGRIDGE: Yep. Yeah that's, that was another hurdle we'd faced a lot with communities on engagement because they'd - say based on traditional knowledge, they'd go down to the river because the wattle's flowering and that means potentially you can catch a yellow belly. That's just a scenario. They'd go down there but they're in a regulated system and that water's not there because no one's ordered it. Or it's there, but it's environmental flow, it goes down to the Lowbidgee or whatever, you know. But those values wouldn't be normally picked up and I suppose it - when you're talking to individual nations, and they will have different value sets and there'll be different - you know elders will have different ideas about water within their own communities. But we allowed them to come up with their own ways of managing water, if they could get water. It wasn't up to government to determine that, and I think that was - the success of the program was that we allowed communities to decide for themselves, but when they got to the point and say, "We want some water", "Oh, it's not available, sorry". That was always the challenge.

But going to nation-based communities. Like the Aboriginal water fund could work in a way that if you generate income from water - like what the CEWO does, is trade some of their licences to generate money to buy more water, to release water or to do whatever, but that could be a similar scenario, and I'd be happy to be the Aboriginal water holder any time.

COMMISSIONER DOOLAN: We note that.

MR MOGGRIDGE: You know, then you'd have a bucket and then they could put an expression of interest in to that set-up and say, "Look, we're developing" - I'll give you an example. So there was an old uncle out at Karra and he said, "Look, there's a site off the river, it's about three k's from the river, it's Aboriginal owned. They want to establish a - like a rehabilitation and spiritual centre, so when guys either - guys and girls had either come off whatever they're on, or they come out of prison, there's a place for them to go to heal and then build their capacity, but they needed water there. Either ground water was an opportunity, but pump - you know, setting up pipes for three or four k's away was probably not a good idea from the river. But how would they get water to that place?" Ground water was probably the only option but that's not cheap either. So then - I had no answers for him. I said, "I can't get you any water. Unless you can come up with a crazy amount of money to drill a bore, I can't help you". And I think scenarios like that, where he was looking at culturally and spiritually fixing people with water, because they did have a small lagoon there that was, you know, that would only get filled by rain. But they wanted to keep that water, to maintain the water in that place, to make sure that when people were coming there, there was water there for them. And the water - the Aboriginal Water Fund could've had opportunities for them to apply, build a case to order water and - or, you know, drill a bore or whatever, so -

but there are those other ones that are just off the river and because of diversion or over-allocation or over-extraction, that water doesn't get over the bank anymore to those wetlands. And they're the little wetlands that Aboriginal people see are significant, and they don't make the cut in the basin plan as the iconic site, so they miss out. And for us, those places were ideal spots to get water from the river through these allocations, but then, you know, it all costs money. Yeah.

COMMISSIONER DOOLAN: I do want to just - you've touched on it. Working with the environmental water holders do you feel can assist in meeting some cultural objectives? But - I mean your just recent statement suggests not all.

MR MOGGRIDGE: There will be overlap, definitely. And that's the same - that's why the research in the cultural flows is needed because it was - you know when the basin plan was being prepared it was all around the best available science and credible evidence. You know, they were the words we kept hearing. But cultural flows didn't have any of that. You know, all it had was the elders that would sit at the table and rarely say anything because they're intimidated of everyone else, banging the table with their reports, and they didn't have the reports. So, if we get a cultural flows report, or maybe my PhD, that can bang on the table. And I suppose it's - the challenge for them is - I lost my train of thought, sorry. Was that?

COMMISSIONER MADDEN: Environmental.

MR MOGGRIDGE: Environmental, sorry, yes. So there are definite overlaps. Definite overlaps. I have no doubt, like if - so when you see a scenario of basin planning, water resource planning, you've got objectives and outcomes, values and - what's the other one - uses. So that sort of a chain of what you want to get to. So an objective might be good water quality so fish can breed. An outcome is restocking the river with fish that can, you know, grow into bigger fish. A value is the dreaming story related to that fish. The use is catching a fish that's dinner plate size. So there's your chain that we were - you know, we were pushing for, but obviously got stopped, but there's your chain from, you know, the objective to the use. And the use could mean a number of things. You know, the use could be, you know it could be culturally significant, so they can't catch it, so they've got to protect it. That's their use. Or it could be, you know, the red gums. You know, any of those things. There's your linkage to environmental water. So if the cultural knowledge can be considered environmental management, then there's an opportunity. But at the moment the Water Management Act is just so rigid - the Water Act, sorry, the Federal one, is so rigid that it doesn't allow for cultural values. So there are little projects here and there that the (indistinct) is doing but when you put the pressure on, "It's not in the Act, we can't - it's not in the (indistinct), you know". We bought the water for this but we can't use it for that.

But my idea is that I can't see why you can aim for dual outcomes. You know, the dual outcome scenario is a win-win. You know, if there's cultural values upfront with the ecological values, and you get those outputs, then there's a win-win there. You know, I can see drone footage and Twitter hash tags going off crazy for the (indistinct), you know. Like I just can't see why that would be such a barrier. Like there's - it has to work. But then again, putting Aboriginal values - we need to be careful that Aboriginal values can't go back to flora and fauna. Can't go back to the old days. So we can't be perceived as going back to those, those value sets as a - you know, you're one with the environment so environmental water will cover all your values. Then it misses out on the economic opportunities but also the - yeah.

COMMISSIONER DOOLAN: Yes. No, we understand that. All right. Is there any more points that you would like to make?

MR MOGGRIDGE: I think my main bits was the states must be accountable. Yeah. So my personal recommendations, yeah, the indigenous-led research in water, there's no opportunities there unless you do it yourself. First Peoples' Water strategy and also an advisory body or, you know, something like that. Indigenous water holder or indigenous water fund to facilitate water opportunities and change the Act, Water Act, to consider cultural values.

COMMISSIONER DOOLAN: Okay. All right, well thank you very much, Brad.

MR MOGGRIDGE: That's all right.

COMMISSIONER DOOLAN: And we will be likely to get a submission?

MR MOGGRIDGE: Yeah, yeah - well what I've written I can just add.

COMMISSIONER DOOLAN: Yes, okay. Well thank you very much. We - - -

MR MOGGRIDGE: Chapter 1 of my PhD will be a reflection on New South Wales.

COMMISSIONER DOOLAN: So we will have helped you write Chapter 1.

COMMISSIONER MADDEN: It might be a long chapter.

MR MOGGRIDGE: I've got to be careful I don't get too angry.

COMMISSIONER DOOLAN: No, thank you very much.

COMMISSIONER MADDEN: It's been very useful.

MR MOGGRIDGE: Thanks.

COMMISSIONER DOOLAN: And you're our last presenter at the Canberra hearing.

MR MOGGRIDGE: Okay.

COMMISSIONER DOOLAN: So that concludes our scheduled proceedings and just while I'm here, for the record, is there anybody else who would like to appear before the Commission? Not for the record? Nah? No, sorry. If not, I adjourn these proceedings and we'll resume public hearings tomorrow in Sydney. Okay. So thank you very much.

MATTER ADJOURNED AT 11.14 AM UNTIL

TUESDAY, 17 AUGUST 2017 AT 9.00 AM



Australian Government
Productivity Commission

PRODUCTIVITY COMMISSION

NATIONAL WATER REFORM

DR J DOOLAN, Commissioner
MR J MADDEN, Associate Commissioner

TRANSCRIPT OF PROCEEDINGS

AT SYDNEY
ON TUESDAY, 17 OCTOBER AT 8.51 AM

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COMMISSIONER MADDEN: Good morning, and welcome to the public hearings for the Productivity Commission National Water Reform Inquiry, following the release of our draft report in September. My name is John Madden and my fellow Commissioner is Jane Doolan.

I would like to begin by acknowledging the traditional custodians of the land on which we meet, the Gadigal people of the Eora Nation. I would also like to pay my respects to elders past and present.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission's work and to get comments and feedback on the draft report. Following this hearing in Sydney, further hearings are scheduled in Melbourne, and Adelaide and Perth at this stage for next week. We will then be working towards completing a final report to government in December this year, having considered all the evidence presented at the hearings and in submissions, as well as other informal discussions. Participants and those who have registered their interest in the inquiry will automatically be advised of the final reports released by government, which may be up to 25 parliamentary sitting days after completion.

For any media representatives attending today, some general rules apply. No broadcasting of proceedings is allowed and taping of the hearing is only allowed with permission. Please see one of our staff for a handout which explains these rules, but I'm not sure anyone from the media is present, so we might not see much movement.

We like to conduct all hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason, comments from the floor cannot be taken, but at the end of the proceedings for the day we will provide an opportunity for any persons wishing to do so to make a brief individual presentation. Participants are not required to take an oath, but should be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions during their remarks. The transcript will be made available to participants and will be available from the Commission's website following the hearings. Submissions are also available on the website.

For today, in the case of evacuation, please evacuate the building via the nearest exit, I think which is straight out the doors, and proceed to the assembly area which is located on the corner of Liverpool Street and Castlereagh Street, in front of the Commonwealth Bank.

I would now like to welcome Adam Lovell and Stuart Wilson, representing Water Services Association of Australia.

MR LOVELL: Okay, we're set to go. Okay, so we'll make an opening statement but we're ready to get into the questions because I think that's where we can explore some of the more interesting parts of where we're heading with urban water - well, National Water Reform, but in particular Urban Water Reform. So, as a prelude, of course, and introduction, Water Services Association of Australia is a peak industry body for water utilities around the country and including two in New Zealand, two major water utilities in New Zealand, and we have a range of members, including the private sector, so Veolia, Suez and Trility are also important members of ours. So we're speaking with some breadth from a utility perspective.

We are really pleased to see National Water Reform back on the agenda and overall we're very supportive of the recommendations that have been made. But I'd say in a nutshell, we need the volume to be turned up. There is some urgent water reform issues that need to be looked at, that we've been talking about now for a decade, and I think back now to the 2011

Productivity Commission Report and some of the fantastic recommendations made in there. Not all of them we agreed with but many of them we did. Nothing has moved forward. The National Water Commission came up with a range of policy directions. Nothing has been actioned. And the real danger that we have now is that we will be sitting here in three years' time under the current arrangements and talking about the same thing, and I don't think we can afford that.

From our perspective, one of the things that's really required is to set some objectives for a new national water initiative, or a revised, reinvigorated national water initiative. We really need some of those core objectives and I think one thing that we've suffered from in the country is regulators and utilities suffering from a range of objectives not immediately clear to anybody who tried to decipher through the forest what it all meant. And I think that's a key thing and I think that's what a reinvigorated NWI could do, is set up very clear objectives for what we are trying to achieve.

I think we need to make a much better case for urban water reform. We acknowledge that, but we do encourage others to participate in that debate as well. Mostly we need to also work out what's the implementation of this look like? And we do argue that a new independent national body, like the National Water Commission, but not a revised National Water Commission, be put in place because, again, under the current arrangements we're back here in three years' time talking about the same thing. To implement a new national water initiative or a revised national water initiative needs constant care and oversight and independence. That's from our point of view.

From our point of view what's the burning platform here? And it's growth. It is growth of Australian cities and urban centres. It is important enough of course that there is a cities unit now within the Prime Minister's Cabinet and it's already well established that Australian urban centres including our cities are responsible for 80 per cent of Australia's GDP and will only grow. Our cities are getting more urbanised, they're getting more complex and in the good old days when Gough Whitlam, you know, first sewered Western Sydney it was actually the way we structured our cities, was around water. It was around water courses and the way you could actually service from water. And I looked, you know, the first thing I looked at in my email box this morning was an invitation to a CEDA event; you know, structuring our cities around transport. Hooray. The way we actually plan and structure our cities needs major revision. I know that's not within the remit of the Productivity Commission, but I think at a bigger, at a higher level we've got some serious problems the way we integrate our infrastructure, and it could be something that Infrastructure Australia or another body looks at into the future. But ultimately, if you look at the way we plan our cities and our urban centres, you know, water - Urban Water suffers from being last at the playing table, and there's some pretty significant ramifications from that, which you've highlighted very well in your draft report around the way we can implement integrated water cycle management. And I think that - you know, we've got some really big barriers to cross.

I think one of the things that I was encouraged to see some of our members doing, particularly because we're here in Sydney, you know Sydney Water asked Deloitte to come and work out what's the value of the deep ocean outfalls and the 25th anniversary? \$1.2 billion per year it's worth to Sydney. But more than that, it highlights avoided sickness costs by having deep ocean outfalls and not the cliff face outfalls. That type of work we need to do more of because it actually expands just that direct pricing. It expands it to the value that

water utilities create beyond taps and toilets. And I think that's what we need to do more of, and I think that will build into assist with integrated water cycle management.

I think having that - pulling in an agenda with the Cities National Performance Framework that they're developing at the moment through Infrastructure Australia about growth in our cities, is probably the most important thing that we can follow through with. Again from that, not only an integrated water cycle management can be better established and better understood, and we need more guidance in that respect, but issues like competition, which - which we've all struggled with, all of us, be it a regulator or a utility or a government department or a shareholder, everybody struggled with competition.

I will hand over in a second to Stuart to talk about some of the other key points, including economic regulation and the role that that plays. I think one of the - one of the other aspects that we're really keen to look at, is what would be a framework that you could put to Urban Water? What are those goals that we're trying to establish, the value that we create? And we released just a month ago a paper here, Global Goals for Local Communities, around Urban Water's role in aspiring to the Sustainable Development Goals. And I think from our perspective, that is a really positive framework that we could put in place because it establishes value, more than just safe, clean drinking water and sanitation. So that's the type of framework that we're looking to put in place.

Before I take a breath, the other two or three critical things I think is that where we've moved Urban Water is to be far more customer centric and far more looking at community value that we establish. And I think in the language that we use, and I can only read the coverage in the final report, if we can sort of try and get away from "its users", because that - for me, I read that and I think irrigators. Customers now in metropolitan areas at least are paying full freight, and so they're genuine customers and I think that's where the industry's moved to and I think some of that language needs to be washed through the final report.

We also note some of the recommendations that you made about regional urban services and we fully agree with those. We can only encourage more transparency in that space. We believe that collaboration is probably the best way forward to start with, before trying to establish really formal mechanisms because I think the industry itself is just in its infancy in that collaboration space. There are the ROCs in Queensland; there's the alliances here in New South Wales. That needs to be encouraged more, but I think what you've said around the CSOs is really important and we'd really support that.

And finally, the issues around governance cannot be understated. What we've seen in Tasmania with TasWater and the proposal from the Tasmanian Government. What we've seen in other places such as MidCoast Water, a county council that's been pulled back into council. You know, we've seen more of that and we've seen backsliding against the National Water Initiative, so what we need - what we actually are calling for is that - to establish a new or a reinvigorated NWI will need to come with incentives and sanctions. We have almost no doubt about that. Going back to 1994 and 95 COAG agreements and competition payments clearly put utilities on the right path. I think the National Water Initiative was a good thing, but largely has been unenforceable and it's only because of us - you know, established professionals right throughout the industry are willing to carry forward the industry, has sort of allowed it not to backslide further. But we've come to the time now where that reinvigorated NWI will need incentives and sanctions.

Having said that, I might hand over to Stuart because an important part of what we've called for is improved economic regulation as well.

MR WILSON: Thanks Adam. I mean Adam has set out the growth challenge that we have in our cities and a lot of that is upside; there's a lot of great opportunity to provide amenity and greater places to live. But we feel that we need to get better alignment of institutions if we're going to realise those. And the downside is if we don't get that alignment of institutions then there's going to be greater costs for customers, and it's going - and opportunities are going to be lost.

Adam has covered - talked about governance. Economic regulation is one of the foundation stones of any monopoly utility industry and WSAA has always supported independent economic regulation. Your draft report or the Productivity Commission's draft report covers the - or sets out well the slippage in coverage that we've seen in economic regulation around Australia and we think that that makes it more difficult to have the clear alignment of objectives that we need for the future. But we'd also like to make the point that even where economic regulation is in place, we think improvements can occur in virtually all jurisdictions to get that greater customer focus and greater clarity of objectives.

In 2014, I think it was, we released our statement on better regulation, setting out a set of principles that we think were fairly obvious. But the interesting thing about it is at that time not many jurisdictions really met what we saw as the minimum standards. Since then, Victorians have released the PREMIO model which, along with their clear objective and merit review, really fills in that need for a customer centred regulation and incentives for productivity and efficiency. I think it would tick all the minimum standards and go above, but looking across other jurisdictions I think there's work to do everywhere. That's really what, I think, we wanted to cover as an opening. We can explore some of that in more specific terms through questioning.

COMMISSIONER MADDEN: Yes, thank you. I might just start with some of the history that you mentioned, Adam. And just wonder, if you think back to the 2011 and you talk about urban reform potentially stalling, where we did have an NWC at the time, so you talked about that as a potential solution. But I just wonder what some of the barriers were and not potentially case studies, but just that kind of overview. I mean is it a government inertia? Was the case not made? Was there just not the time because there were other issues coming out of the drought? I just wonder what lessons can we learn from that recent history in terms of then going forward?

MR LOVELL: So my feeling at the time was what you hear from the irrigation sector, that they were reform fatigued. We still hear that from the irrigation sector. We're not, you know we're ready to go. But at the time I think it was, "Phew, you know we got through the drought. We've got this massive capital works that are in the ground; desal plants mostly. The drought's broken, all good, we're off the front page". And I think, you know, even - I can actually remember at the time on the back of Productivity Commission and National Water Commission reports trying to get State Government's interested in, "Okay, you know it's a quiet time. Now's the time we can actually, you know, quietly go about and rebuild the new National Water Initiative; that we'd have, you know, strong support and is well - is well built", you know. I think we all acknowledge that the NWI as written for Urban Water is a little bit - - -

COMMISSIONER MADDEN: Sparse.

MR LOVELL: Hit and miss. You know, there's some really good things in there and I think the pricing - the pricing has really helped that along the way. But on the whole, you know, it needed a better framework. It needed objectives - or it needs objectives. It needs a fuller understanding of what integrated water cycle management is. And at the time I think let's not be too hard on ourselves because we were still struggling with the technology there; what does this all actually look like?

So I think that for me is the history. I think we're in a much better situation now, that amongst the industry and with the Australian Water Association here, with IPA, we've pulled together reports. So this is public sector, the private sector ready to go and, you know, that's why we're sort of in a position to say let's turn up the volume because we do need to - we do need to get going. That's a bit of a potted history I think, yeah. It was reform fatigue at that point in time.

COMMISSIONER DOOLAN: So, it's been - as you say, there's been a huge amount of reform in the rural sector. Much of it in shared resources, so the impetus for governments to act together in a collaborative way is much clearer. What is the value proposition for individual state governments to actually, if you like, yield some of their sovereign power over their utilities and agree to a national agenda here? Because this is, I think, a fundamental question we have to really get our heads around, is the value proposition for governments.

MR LOVELL: Yes, and look I agree. I will get Stuart to get involved in this one too. But at a broader level, at a higher level I think it is about that growth agenda and I think you noted in your report that, you know, competition has been at various levels within the states. You know, people have talked about it, they've looked at it. Some people have frameworks and some people have regulation in place. But it's not - it's not at a level that anybody really understands what's the best way forward? What's the framework for moving forward with this? The same with economic regulation. The same with - we all talk about wouldn't it be great to have integrated water cycle management and decentralised systems. But really where is that happening?

So I think, for me, it's the growth platform and it's about Australia's competitiveness. Because as we turn to be a knowledge economy and become more urbanised, the competitive Australia relies on its cities being liveable and without all of those supporting frameworks at a national level, and with some consistency. So we're not - we're certainly not arguing, say, for a national economic regulator. But there are certain minimum standards you could put in right across the board which would - which could only enhance Australia's competitiveness, particularly for cities and urban centres. Did you want to add anything?

MR WILSON: Yes. Fortunately or unfortunately, I sort of remember the reforms of the early 90s, the competition reforms, and it's almost, "Why did we embark on that round of reform in the early 90s? Why did the Commonwealth and the states say we need to do something different? Why did the states cede some of their sovereignty, in a sense, to a national agenda?" It was about productivity improvement, it was about making the national economy work better, and it was about getting better outcomes and lower prices or minimising price rises for customers.

I think we look back at that period as a success and I don't think the agenda's changed that much. I think those issues about productivity are still important. Urban Water isn't a small

sector. We're a \$16 billion sector. I think we're just under, you know, three-quarters per cent of national GDP.

For the Commonwealth Government we think the agenda would be clear. They want to maximise Australia's economic performance and we're a part of that. For state governments, I think they - I think as was in the 90s, everybody can see common problems. It sometimes takes a national approach to address those common problems.

We look back at the history and say okay, you know, is it best the states should just pursue these issues individually? I think what we're seeing is the complexity of these issues, such as introducing competition into Urban Water, frameworks for economic regulation, dealing with governance issues. They just really haven't been advanced as quickly as we would've liked under a decentralised state by state approach. And I think many in state government would recognise that. So we think there's a national imperative for - in the same way that there was a national imperative in the 90s, we think that this is competition policy that still hasn't been finalised. I think the Harper review was also talking along these lines and you come back to the size of this sector. It's hard to cost benefits but when you've got a sector as large as Urban Water, any cost benefit analysis will come out on the right side from reform.

MR LOVELL: One thing I might add too is, you know, a report which we've provided in our initial submission, NextGen Urban Water. And the one report that's resonated, from my perspective, is state government departments. It's anecdotal but certainly I've got most calls from state government departments about this report, because it offers a future. You know, it offers a future which is more than - that provides community value greater than - greater than the taps and toilets. There are members that have - well, most of our members are pretty well established, so it's core business, but a lot of this is based on collaboration, and utilities or others leading a collaboration. But from our point of view collaboration will only take us so far, and I think that's - that's what we need. We need to take it to that next level which gives state governments a more solid framework to be working towards, a common framework across the country.

Ultimately, you know, many of our members spend well over - 75 cents in every dollar is spent with the private sector, so there's great - there's already great private sector participation, but to encourage more of it we need more certainty. We're a huge country of 23, 24 million people. Why we need 21 different sort of regulators across the country still defeats us, but that's the way it is. But it can only be to Australia's betterment, to our competitive betterment that we've got at least some sort of alignment across all of those 21 health, economic and environment regulators.

COMMISSIONER MADDEN: So just on that, and - well I'll come to two parts. It seems a little bit of the message is, "Well, we're ready to go if someone says 'Charge'". I just wonder, given your knowledge of members in terms of capability and where they sit, to be able to respond, if there is a change in direction, an agenda setting, is that capability and, more importantly, probably culture, do you think that's something that can respond reasonably quickly, or is that mixed, obviously?

MR LOVELL: I would say on the whole, you know, they're ready to go, and I'll give you an example. In Queensland of course there is no economic regulation of note. But one of our members up there, QUU, Queensland Urban Utilities, which effectively runs Brisbane, they go out and do their own customer engagement like the rest of the - like Victoria's just gone

through with PREMO, with their pricing path. Like Sydney Water does. Like all of our members do around the country. QUU have said, "We don't need necessarily to have economic regulation to make us do customer engagement better". So there are plenty of examples like that where members have come along with the path. And, you know, just from our own strength in - at WSAA, and also others, other associations; the AWA with growing members as well. It only lends to the fact that people are willing to collaborate across the country, without being necessarily forced to, but everybody's actually still looking for that certainty, which we don't have.

COMMISSIONER MADDEN: And I guess just touching on that, obviously with standard drinking water guidelines and health.

MR LOVELL: Yes.

COMMISSIONER MADDEN: And if we learnt from those other sectors, you mentioned health and environment, is that still an area where, you know, that kind of harmonisation is still a problem in certainty for people, or is there lessons to be learnt from those areas for economic regulation and planning?

MR LOVELL: Yeah, I think - I'll let Stuart tackle the economic side of it, but if you look at where the Australian Drinking Water Guidelines have come from, the way they've been developed, largely - and the current day is a little bit different, but in the past it's been developed through the NHMRC with - led by regulators but with industry and researchers on board developing those guidelines, and go out for community consultation, they're put in place and largely the health departments around the country pick that up and say, "Sydney Water, Melbourne Water, that's it, 100 per cent, you've got to comply with this 100 per cent".

So there is already a national approach to that. What we're not seeing now, and which is a fair reflection because environmental regulation does need to be more site specific, is that flexibility that we need to see in the environmental regulation which stops - you know, we've got to - we've actually got to grow up and mature and move away from just, you know, just treating point source pollution as the only means of tackling the broader environmental outcomes that people are looking for, particularly for our rivers and inland waterways. And I think - you know, we've argued here for outcomes-based regulation. It needs to bring in stormwater - and stormwater is a whole another topic we can talk about - but when you sort of look at the broader - all the broader inputs and impacts on waterways, we've really got to mature to look at what are the outcomes that people are expecting from these waterways? Do they expect to fish? Do they expect to swim? You know, is the water used for other irrigation means? We have just not - we've got to take that next step, as far as I can see. Do you want to tackle the next part?

MR WILSON: Yes, as you said Adam, the Australian Drinking Water Guidelines show that you can have some national consistency without inhibiting jurisdiction by jurisdiction variation, and I think that's - that's a good model to apply across the environment sector and the economic regulation sector. It's not our intention that there be a one size fits all. We think that the bar can be raised across the board for economic regulation but we don't in any way want to inhibit innovation.

Going to the earlier discussion. I think utilities are all on transformation programs. They're all increasing efficiency. But the environment they operate in is important to determining the ultimate outcomes, and they're coming up to limits when they try and collaborate with

different sectors. They are trying to - they come up with limits about the extent to which they can use the customer engagement and make it effective, if there's not agreement to the system that supports that. And while they're pursuing efficiency, there'd be a virtuous cycle if there was more incentives for innovation and productivity built into - as a reward in that - in those frameworks.

COMMISSIONER MADDEN: Are you happy for me to follow?

COMMISSIONER DOOLAN: Keep going. Yes, okay.

COMMISSIONER MADDEN: I guess another issue that you've mentioned is planning. And again there's a lot of stuff that we see about principles planning. From your membership, do you actually have examples where on the ground - not so project, but precinct or regional based kind of planning is actually done well in an integrated way?

MR LOVELL: It's more case by case and I think if the - without dobbing Sydney Water in, I know they're talking later but it would be worth exploring with them that sort of question as well.

COMMISSIONER MADDEN: Yes.

MR LOVELL: But just off the top of my head and out of our NextGen paper, Bowen Water recently developed down in Geelong and Victoria, recently developed a precinct which was done with water, actually almost a water centric type approach to that planning. So it happens, but again this is opportunistic, rather than being systemic. And again we would argue, okay, it doesn't always have to be water centric but it's more about having water included with transport, with waste, with energy, with telecommunications. And we're not seeing - we're not seeing that unless it's opportunistic. It's often needing a person or an organisation really striving for those sort of outcomes. Now, they - that will definitely open people's eyes to what can be done, but our feeling is, you know, if you take it all the way back to COAG in 1994, 95, and all the benefits that we saw out of utilities being, you know, efficiency gains and the backsliding that's happened since then. So, opportunity will take you so far, collaboration will take you so far, but you need some sort of systemic frameworks to put that in place.

COMMISSIONER DOOLAN: So just following that integrated planning.

MR LOVELL: Yes.

COMMISSIONER DOOLAN: It's not really that water is left out of what is systemic planning. It is that there is no systemic planning.

MR LOVELL: Yes, correct. Yeah.

COMMISSIONER DOOLAN: So, it's - we're not seeing city shaping planning. It's far more opportunistic, is it not?

MR LOVELL: Yeah, I agree.

MR WILSON: Yeah. I think water does have a specific problem relative to transport and health, in that we have a framework of cost recovery in place. So the city planning that does go on is about budget commitments to transport and there's an assumption that water will be there because it funds itself. But what we're seeing is that funding growth is a challenge in many cases, and we lose opportunities because we're not at that planning table. So it's almost

we're a victim of our own success, in that we don't get the voice in the planning cycle that we think would benefit outcomes for everybody. That's sort of above or in addition to the problem with systemic planning generally.

MR LOVELL: Yeah. And I think, you know, I would be looking for - or we would be looking for in the future a body like Infrastructure Australia itself, or some other body. If you read their reports, great infrastructure plans but it's still so siloed. It's still - you know, and then to have various high level representatives talking about a liveable city as a transport centric city, sort of makes you choke on your cornflakes because, you know, that's sort of just treating rails and road as the be all and end all. And, you know, the other thing that I would - worries me, as I hear things happening, is that these city deals are being developed through the cities unit with, you know, Launceston, Townsville, Western Sydney is under development now, is very little involvement with water. Or if there is an involvement with water, specifically, you know, looking to just disregard the National Water Initiative in that development. And that - you know, city deals are just one mechanism of the way urban development is happening, but it also makes it even more urgent to develop a reinvigorated NWI, No.1 clause, all options on the table, but gives more of a framework that you can hand to those collaborating partners, Federal Government, State Government and Local Government, to say, "Here are the planning frameworks that you should be considering when you put this city deal in place from a water perspective".

COMMISSIONER MADDEN: So just the next step from that, and you touched on it, Stuart, which is really pricing policies and funding sources and any constraints and barriers in that area. Again, I think we're aware of some of the problems with (**indistinct 09:39:33**) end pricing and then localised benefits and the like. Again, are there examples where there are good frameworks in place to allow this flexibility and analysis of options at an appropriate level?

MR WILSON: I don't know where - I don't know that we can cite any examples where we think it's got - it's been done perfectly. I think if you look around the country, the mechanisms of funding growth vary enormously. In some jurisdictions the development community funds a high proportion of the growth, and that means that the existing customer base doesn't fund that growth. In other parts of Australia though, in Sydney for instance, there are no effective developer charges and we know that growth costs more. So that means that your existing customer base is needed to fund whatever services are going to be delivered in new growth areas. And that inevitably is going to be a constraint on the thinking about what can be achieved in those areas. So I think on a national level, just what are the funding mechanisms for this growth challenge is something that we could deal - that needs to be dealt with.

COMMISSIONER DOOLAN: So just following that. I mean we've, if you like at the moment, recommended - a draft recommendation, a review of that developer charges for exactly that. It's more about what are the policy principles. What is the role of developer charges? Who should pay for growth? What's the split between existing customers, new customers? What's the split between current generations and future generations, the debt issue.

What do you think, do we need to go further than a review? Do you think there are principles here? What's the avenue for actually talking those issues through? Because they're pretty

fundamental policy questions. Have your members sort of engaged in that debate amongst themselves?

MR WILSON: I think, look, knowing what the facts are is often the first step in the policy discussion, though I think that a review of what those principles are is really important. And I guess what we're saying is we can do that in seven different jurisdictions and all hope that it gets - somehow there's a process of osmosis. Or we can do it once really well. And this applies to the competition area as well, as well as, say, developer charges. So I don't think we're at that stage where we know exactly what the who funds growth or who funds existing services and how do we implement value capturing Urban Water. I don't think we're at the stage of having a perfect model.

Similarly in the competition arena, there is - we characterise it as a state of angst between new players and existing players about what the rules of the game might be and what we might want to achieve with competition. Again we can attempt to resolve that seven times with seven different frameworks, or we can try and resolve it and get some core principles once and then let that then be rolled out, or at least let that be there to be picked up on.

COMMISSIONER DOOLAN: Okay. So you see that as something that, should we be successful and jurisdictions all agree to do this, that they would have as a key component of new national pricing principles, so that - and then NWI?

MR WILSON: Yeah. So on the economic regulation side we're very clear on what we think should happen with minimum standards. And so we'd say in the new agreement you could have rewards and sanctions for complying with those minimum standards. But in these newer and more complex areas we're not claiming that we know what the answers are. So I think there's a collaborative process of finding what those answers are and then when we reach a landing and there is a best practice you can then - then take that up in a national agreement, if there's a need to provide incentives for doing so.

COMMISSIONER DOOLAN: Yes, okay. Can I just follow the competition question, not being an aficionado in this area. It really has seemed that there's a holy grail we could enhance in increased competition in the water sector. As you say, the private sector actually has a very significant role in providing services in the current model that we have. I suppose I'm not really grasping the opportunity that's being missed. The fact is, as you say, not much has changed. So what is the voting platform here? What is something that we are missing to really enhance the role of competition?

MR WILSON: Again, the COAG - competition reforms of the 90s were 20 years ago. What has happened since then isn't much in the Urban Water space. So we have - we are a very large sector which is pretty good at engaging with the private sector but is there any real competition, and what are the benefits of that? We are seeing a major push in the UK to introduce retail competition and to break up their value chain to encourage competition in the - where they're seeing is the more contestable elements.

We don't pretend to know what the answer is, but we think that it's a clear area of development that needs to be resolved, because we see from - that there's a number of private sector players that are saying, "We want more". There's concerns in the public sector that unless we get the models right, it's going to cost consumers more. So it's really just an unfinished area of reform that - again, we represent water utilities; we may not be the best

people to appreciate what those opportunities are, but we're happy to work with a good framework if it exists.

MR LOVELL: I think one of the dangers is in the absence of good frameworks, you know, good regulatory settings, then you'll end up with politicians or agencies picking winners. Or, you know, "Recycled water is good. Therefore, you know, we're going to just put it in because we think it's a good thing". But if you don't have those frameworks, then all of a sudden you sort of end up in this sort of very short-term view, "Because we think it's good, we're going to implement it. We're going to pick winners". And then all of a sudden you're left with supplies of last resort issues and all the sort of problems that come with it. So I think, yeah, we've got an opportunity now to build that in. We've got an opportunity now. I think we can't tackle that without tackling the issue about stormwater. The institutional changes that are required; the funding and the pricing issues that come with stormwater. We had a Senate inquiry a couple of years ago that came out with a recommendation of developing a national stormwater initiative. Crazy stuff. I mean that's - we've got to pull stormwater into the total of water environment. So that's another component that needs to be brought into the fold.

So, you know, there are a number of issues when we're looking at the growth issue and competition, about setting up those fundamental platforms to ensure that we don't pick winners, or that issues are not politicised. And, you know, the last thing we want is to go back to 2006, the New South Wales State Election where we had a choice of desal or potable recycling, when in effect it could have been both or some other mix. So that's what we've got to avoid.

COMMISSIONER DOOLAN: Let's pursue the stormwater challenge, if you like, because again we have various models all around the country and whatever the model is, there's a very significant relationship with local government. So in Melbourne you've got Melbourne Water and the 60 hectare rule. Sydney Water, I believe 40 per cent of the area of Sydney Water will - - -

COMMISSIONER MADDEN: Ten per cent isn't it?

COMMISSIONER DOOLAN: Ten, is it? Anyway, some percentage of - Sydney Water can tell us later on, but some percentage of their district they actually do have stormwater, but the vast majority are not.

SPEAKER: About a third, for the record.

COMMISSIONER DOOLAN: About a third for the record. Thank you, Sydney Water. I think Perth, similarly, some portion, but small. And for the vast majority it's local councils. And even probably the history of that is probably about geography more than anything else, and typography. Where do you think we need to - like how would we start that stormwater? Is it through Victoria's model of integrated water cycle management plans for catchments, sort of bringing people in? Have you and your members had some thoughts about actually where to start that discussion, given that you could fiddle with a lot of institutional boundaries - - -

MR LOVELL: Correct.

COMMISSIONER DOOLAN: But wherever you do, you're still going to have that interaction with local government regardless.

MR LOVELL: Yeah. I agree with you. I think the Victorian model, particularly around Melbourne, is probably the best model to - there currently is, and I think that's the potential to be applied across the country. I think the one thing though that we're lacking is some sort of a funding/pricing model for stormwater which is totally devoid there, and I think the problem is we can wring our hands and say "Well, that's history. It's mostly concreted. It's best they stay that way. We can manage them better", but I feel that that's not a resilient future because we're not taking into account flooding.

It's not only, just of course, the re-naturalisation of creeks and connecting people back to their waterways which have shown to be a financial advantage in various sites around the country, but I think the issues around flooding are a huge X-factor and we haven't even talked about climate change impacts yet. So for me or for us, that Victorian model of the integrated water cycle management and what they're doing around Melbourne, is probably one of the better models. Again, it's based largely on collaboration.

COMMISSIONER DOOLAN: Yes.

MR LOVELL: I think the feedback again, anecdotally, the feedback that we would get from our larger members is that dealing – except for Brisbane which is a total different model – but dealing with the local councils, is a smorgasbord of expertise, you know, from a great range of expertise funding capabilities interest, and so if you've got a major waterway running through four different council areas, then you've got four different approaches to that. So that model has to change and I know that's what they're trying to do, you know, attempting to do, through the Victorian model. So that would be a start. Again, collaboration will get us so far. Without some models in place, we will struggle.

COMMISSIONER DOOLAN: The Victorian model is sort of, almost mandated collaboration.

MR LOVELL: Yes, true. True, yes.

COMMISSIONER DOOLAN: Yet to see though how successful that is, it's just at its start.

MR LOVELL: But it's a better model than most. And you know, the Greening the West Program, that was originally started with City West Water, it is still, sort of, the centre but there's 21 different organisations. I mean, it's been a tremendous collaboration with tremendous benefits, Stony Brook Creek – Stony Bark Creek, I forget the name of that one – but that has shown through collaboration what can be done in revitalising the stormwater infrastructure that's there. But if you speak to some of our members, that's not the ideal model either, so.

COMMISSIONER DOOLAN: Yes, okay. But the pricing is - - -

MR LOVELL: The pricing and funding, I think, you know - - -

COMMISSIONER DOOLAN: On storm water management. So it's drain (indistinct) in Melbourne.

MR LOVELL: Yes.

COMMISSIONER DOOLAN: It's various models elsewhere - - -

MR LOVELL: And in Perth, it's treated as drainage as well. I mean, the only time the water flows is actually when it comes up from the aquifer, from the shallow aquifer, so it's not

actually rainfall run off necessarily. It's actually when it comes up through the aquifer then they've got to get rid of it. So that's a different approach altogether, but you know, I was really pleased to see that Water Corporation have put in now a manager of liveability, you know, which incorporates drainage into the total urban water environment.

So all of our members are active in this space. Water Care over in New Zealand, also a member of ours, about to be handed over the stormwater assets. So they will be in total control of water, sewage and stormwater, and we're hearing various discussions around that sort of model happening around the country.

COMMISSIONER MADDEN: Maybe just one last one and it touches on the collaboration, but as you mentioned in the regional space. I just wonder what the risk and limitations are with that collaboration because collaboration has been going, I think, since 2009 so it's not like wildfire going through - - -

MR LOVELL: No.

COMMISSIONER MADDEN: - - - the rest of the local government areas in New South Wales. What do you see then as the next step in terms of a kind of strategic view beyond collaboration, if any?

MR LOVELL: Well, it will – ultimately it is going to come down to some sort of mandated amalgamations of organisations or forming – you know, it was such a shame that MidCoast Water, even the County council, has a fantastic model and I think Neil actually, I remember Neil speaking at the last Productivity Commission – there we go (indistinct) times – little things change over time.

But you know, that sort of a model works because it brings in the expertise and you can share the expertise across the huge expanses. You know, you could argue a Victorian work could work in New South Wales and Queensland, but you know, Victoria's a pretty small state comparatively to New South Wales and Queensland I think it's a lot harder to try and sort of just a short of hand fist to ram that through.

But you know, naturally organically growing organisations like Lower Macquarie Alliance, like Centroc, you know, they're the models that we should be encouraging. Both of those organisations have joined WSAA because they want to learn more through collaboration with our larger members, but we're not the only organisation, they can learn through collaboration. Ultimately though, it will probably come down to some sort of an incentive model for a more formal amalgamation and I think ultimately your recommendation around moving to SCOs is the right one, because I see those capital grants as being one of the most inefficient ways of putting in urban water services onto those area rural areas, so you know, transparency collaboration and ultimately some sort of formal amalgamation has to be the way forward probably.

COMMISSIONER MADDEN: I probably wouldn't use the word "amalgamation" .

MR LOVELL: It wouldn't be so hard to envisage that, you know, we wouldn't have a utility corp First State Water that runs the whole of New South Wales. Why shouldn't you? Water Corporation runs Western Australia, twice the size, successfully. SA Water runs the whole state. That's just another model, just to be contentious.

COMMISSIONER MADDEN: Put it on the agenda.

COMMISSIONER DOOLAN: I'd like to just explore the national consistency for economic regulation. So it's how far do you push that? So you had some principles, I think we've outlined somewhat similar principles that could be further developed. It is important, in your view, that they're there, but how far do you think you'd push that, or let it roll just as long as it's got a set of principles that various regulators can be held accountable.

MR WILSON: I think we've had principles. I think we're arguing we need to go beyond principles to – we're calling it minimum standards. Things that we can all agree on should be in the regulatory framework, and we've set out what we think they are and that should be firstly, independence and that's pretty easy to judge. You know, regulator. Secondly, a clear objective and we don't think you can go by the long-term interests of customers as an objective.

So in a new agreement you would say does that jurisdiction have a regulator with the long term interests of customers as it's overriding objective? Again, that's quite judgeable. Are there strong incentives for efficiency and productivity? And in regulatory economics, that's a known quantity. You can assess efficiency and productivity mechanisms and we've set out – there's a whole menu there. We're not trying to constrain one particular model. Is there financial viability testing within the regulatory framework? That's almost a binary question, and is there some sort of review procedures?

They are yes/no's, but they wouldn't mandate one size fits all. It would still, we think, allow a lot of experimentation but be assessable and provide the sort of overall discipline that we think we haven't seen - - -

COMMISSIONER DOOLAN: To date.

MR WILSON: - - - to date, yes.

COMMISSIONER DOOLAN: Okay. I mean, one of the things we've also pointed out is that, at some point, particularly with a small – the cost of economic regulation potentially outweigh the benefits for some of the smaller authorities. Would you agree with that conclusion?

MR LOVELL: Look, I think we definitely think it would need to be proportionate. I mean, that's – absolutely. So what major metropolitan utilities, we haven't mounted any argument about regulatory burden that I'm aware of, because I think they are very large businesses and it's about what's good regulation. But for much smaller utilities then I think you can achieve the same basic ends, but the proportion-ness of it – if that's a word – comes into play definitely.

COMMISSIONER DOOLAN: Yes, okay.

COMMISSIONER MADDEN: Okay?

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: One more?

COMMISSIONER DOOLAN: Overall or on regulation?

COMMISSIONER MADDEN: We will move onto NWI - - -

COMMISSIONER DOOLAN: Yes, that's where I was going. So we are comfortable with the idea of a new NWI, a new NWI with a significant urban component to it. You do put a

lot of weight on the need for a new national agency so I would like to pursue that, a little, given that we had a national agency and clearly governments didn't see the overall benefits outweighed the costs, and closed it. So I am sort of keen to know what do you see are the benefits of that, and then what would be the shift to make sure that again, governments saw the benefits were worth the costs?

MR LOVELL: At a Federal level or a Commonwealth, it's certainly a challenge, but you know, it's almost worth looking at some of the examples. Who's calling out the Tasmanian government for the direction that they're taking? I can write stuff but we're an industry association, of course, we are probably expected to stand up for TasWater.

We've got to have that voice out there that is calling out anybody, utilities, state governments whoever, involved in urban water management. I think the problem that we face with the last – well, with the current NWI, is that besides the pricing, we've discussed this, you know, it's a bit patchy and there's not much to actually call out on and I think there's a challenge there between, you know, the role of the National Water Commission, the Federal government department at the time kept changing its name, you know there was that tension that naturally existed because I think there was not enough teeth attached to the NWI for urban water.

So I think the difference would be this time that we'd have a far better structure framework through a reinvigorated NWI, with incentives and sanctions, with clear objectives and then all of a sudden, a national independent body has a lot more baseball bat behind it and potentially a few carrots to offer out there as well. So I think, you know, the overall structure of it, would lend a lot to a change in circumstance.

But it would also involve, I think, different expertise, because what we're talking about is a different approach to the NWI. We should talk about economic regulation. I'm not saying it is a new economic regulatory overview, but it's a different set of expertise that we are bringing to the table.

COMMISSIONER DOOLAN: Okay.

MR LOVELL: So they're the differences.

COMMISSIONER DOOLAN: So for me it's about design, policy, the incentives and penalties, if you like, and assessment review function.

MR LOVELL: Yes.

COMMISSIONER DOOLAN: Wherever that might lie. But that framework is really what you're pulling to rather than - - -

MR LOVELL: Exactly.

COMMISSIONER DOOLAN: Okay.

MR LOVELL: Exactly that.

COMMISSIONER MADDEN: Just to note, of course, with the model robust assessment framework, it's actually the Productivity Commission's job in three years to actually look at that at this stage.

MR LOVELL: At this stage?

COMMISSIONER MADDEN: So again, probably more for the record, that those functions were transferred over from the NWC but I take the point in terms of the assessment.

MR LOVELL: Yes.

COMMISSIONER MADDEN: And actually then, the role of pulling it out.

MR LOVELL: Yes. And of course the Productivity Commission is obviously independent or has that degree of independence which is what we're looking for. But it can't happen every three years. We've got to be better than that.

COMMISSIONER MADDEN: Yes, I understand what you're saying there. Okay. Well, thank you very much.

MR LOVELL: Can I just add one short point?

COMMISSIONER MADDEN: Yes.

MR LOVELL: To close off on. We haven't really gone into depth on the issues of climate change which hit water first, out of any – nearly any other utility business. You know, there is some modelling that's been done. We developed a tool with our members with Federal government funding called AdaptWater and you know, that's indicated that some assets, about 30 per cent of the assets – I'm talking not just water security here. So I'm trying to move out of the realm of water security planning into what's the net impact on the asset base. It's a fair chunk.

But it remains as the big X-factor because 70 per cent of water utility infrastructure is underground. So I don't want to discount it. I know – I firmly believe that growth is our (indistinct) platform here and how we structure our cities and urban centres, regional urban centres going forward, but you can't underestimate the X-factor of climate change here, and the potential impacts going forward on urban water infrastructure. So somehow we've got to keep that as part of the agenda.

COMMISSIONER MADDEN: Yes, it would be good to actually have a submission on that and probably think about again, what's the role and responsibilities in terms of, rather than doing it, not seven times, but however many utilities we have.

MR LOVELL: Yes.

COMMISSIONER MADDEN: And thinking of that efficiency. Thank you very much.

MR LOVELL: Thank you.

COMMISSIONER DOOLAN: Thank you.

COMMISSIONER MADDEN: So just to note, because we went a little bit over time, that we might actually have morning tea at 10.45 to allow enough time, given that we've come all this way to hear people. But if we can call on Jonathan McKeown from the Australian Water Association. So we also have Dr Paul Smith joining Jonathan. Jonathan, would you like to open with a statement?

MR MCKEOWN: Thank you very much, Commissioners. I'd just like to echo the opening remarks that Adam made and to congratulate the Productivity Commission for the work that's gone into the interim report or the draft report. Largely speaking, we are in agreement with it. One of the things that displays what a good job you've done is when we've

extensively promoted the report and its finding to our members, we've got very little response. So you haven't really upset anyone sufficiently.

COMMISSIONER DOOLAN: Indifferences success.

MR MCKEOWN: So you can try harder. That's what I want to try and help you do this morning with a couple of comments. But I'd like to start just by saying AWA is working closely with WSAA to present a united front for the water sector on the findings of the Productivity Commission and I strongly support and endorse everything that Stuart and Adam have said.

I'm going to have a few nuances in terms of different emphasis and I'd like to cover some comments, not only on what Adam's very adequately covered on, on urban water issues, but I want to touch on some of the rural water issues. But I'd like to start off by saying the Australian Water Association is the national peak body for the water industry. We have 5,500 individual members across the country and we have 575 current corporate members that include over 100 water utilities.

We're located in each state and territory across the country and we are not a lobby group. We are not blessed with the resources to devote to policy analysis that Adam and Stuart do a terrific job at within WSAA. What we do as an organisation is provide information, networking opportunities and recognition for our players within the water sector through more than 200 events, a range of publications both printed and online, to bring out constituency together on issues that are really concerning for them.

I would like to start by saying when we look at this whole area of water reform in Australia that the Productivity Commission is grappling with, it's really talking about our country's future and particularly or economic development over the next 20 to 30 years. That's what makes it so incredibly important that the industry and the wider community really comes to grips with what the Productivity Commission is recommending.

We see the development of Australia in the next 20 to 30 years principally along well-defined pillars. The first is the growth of our urban centres that Adam and Stuart have ably discussed, and with that, it's not only the liveability of those cities, but the very important industries and economic generations that those cities will be continuing to provide, and as Adam has said, there'll be an increase in focus on that and particularly around the liveability that we can actually attract more investment and more expertise into our cities to govern those industries that are going to be fuelling the economy over the next 20 to 30 years.

But in addition to that, we do have this very strong arm of agriculture across the country which will continue and strengthen, in our view, Australia's position internationally, and the link with water, as we all know, is crucial with that. The third is in the resources sector that's going through a bit of a dip at the moment, but we're estimating that that will come out of the dip, and we will see resources in this country play a very important role over this immediate period in front of us, which in turn depends very significantly on the use of water. And the last one is the growth that we're all witnessing over the last 20 years of tourism that's bringing enormous economic benefits to the country.

Now, to try and grapple with those issues of national economic development, we see some of the objectives to be obtained through a reform process around, not only first and most importantly, providing water security for those competing interests in our economy, but we

also see the need to increase national productivity and I'm going to talk wherever I can on a national level here, rather than to talk about states or territories or indeed more colloquial issues, but it's the increased national productivity that's so important and through that we see this competitive, the need for more increased competitive neutrality which will be a main driver for that increased productivity and I will back and talk more on that.

The third objective is to aim for truly national transparency of regulation and I think Adam and Stuart have covered that. I'm happy to make some further comments further down. The fourth is a very important part of what we see this water reform journey is offering, and that is much clearer certainty around the investment and the investment rules that will govern the fuel that we can put towards our infrastructure in the water sector, fuel that we can put towards these developing and emerging industries, dependent upon water to give us economic growth.

And the last one is the clarity and very clear communication that we require on Australia's economic targets that can be divided into quite clear milestones that we can then communicate with the wider community on what we're trying to achieve through national water reform.

If you look at those overall challenges, of those competing sectors of the economy, the importance of water to all of them, look at a method of implementing those objectives, the real challenge that we as a country face is to try and get this balance right between those competing demands, particularly on the growth of our urban areas and the increased investment in those urban areas, climate change and balancing the needs of rural Australia, and that goes to both economic, social issues that Australia is still grappling with, and this is an opportunity, we believe, to try and face some of those wider issues.

The reform journey to bring those competing demands together should provide very clear milestones as mentioned. It does imperatively need to include adequate funding to act as incentives, and I will come back to talk about this in terms of the relationship between the states and the national government, and like what WSAA has said, we strongly support the establishment of some national independent coordinator, and I'll add a bit more of that as we go into the further discussions on it.

The key points I'd like to highlight to the Commission this morning are Australia's water sector really does warrant this national policy attention. For the reasons I've summarised before, it covers so many different sectors of our economy and next to our educational system which is so highly regarded around the world, we view water as the most important national asset the country has. So managing that national asset in the interests of all Australians, balancing those competing demands within the economy, should be at the forefront of any national government. The priority that we place on water policy has slipped down the ladder very significantly for reasons that Adam and Stuart touched on, in terms of going through the millennium drought and the need and the push that was behind all of that investment has supposedly evaporated. But it is only a matter of time before the next crisis hits us and can affect those very important pillars of the economy for the next 20 to 30 years of economic growth.

It's the water sector provides the essential services to all Australians, whether they're individuals or businesses across those platforms of economic development. We have seen very significant reform over the last 20 years on a nationally coordinated approach to water

reforms. There is talk amongst our industry that elements of it feel some sort of reform fatigue but the association, along with WSAA, are strongly of the view that particularly in the urban sector, there is still a very strong appetite to take on more reform. There is the leadership within the urban sector to handle the kinds of reforms that are going to be required, and I think there is a real need and acceptance from the communities that alternative ways are possible and the discussion and the debate is open at a community level.

This is a very large part of the success of what our urban utilities have done with their customer focus strategies, particularly over the last five years. What we have seen in that journey of 20 years of reform has been valued at \$80b to the economy. The association strongly believes that if we're going to get the backbone of our national politicians and more importantly, the media, and through the media the wider community, we need to establish some economic credentials to undertake the kinds of reforms that are being discussed in the interim report. To communicate those to make people realise this is a journey that's worth pursuing because of the economic benefits.

We haven't got the panacea ourselves to say how you do that, but we do have some thoughts around how it could be obtained. The future of our future water journey is really at a turning point now after that 20 years of positive gains. We do think that the only way forward is through a nationally coordinated approach to water reform that enables us to basically build on those achievements that we've done but balance those future competing demands from within the economy.

The association sees a very significant economic benefit from the export of Australian water innovation and expertise. It is something you haven't picked up in the interim report. We talk about the Australian industry employing some 40 to 50,000 people directly. It is a multiple of that in terms of the industries that are dependent upon water, and as a contributor to the Australian economy, it's always underestimated because of the way our statistics are gathered which unscrambles the egg into clear outputs of products rather than the inputs that go into our industries.

But there is no doubt that Australia's role in the region of Asia in the next 20 to 30 years will be very significantly around issues of governance, access to markets and our role of the Australian water sector in opening new markets for Australian business through water expertise is very important and a very significant economic value to the country.

Whilst the Australian government has relinquished the leadership role in water policy in recent years, we really welcome the Productivity Commission's focus on Federal processes on the future of water reform and support your recommendations with a few extra comments we want to add around how you could get that right form of coordination.

Adam has spoken. WSAA has spoken about a national body. We think a national body really is the best way forwards and I'll perhaps just pause here and cover a couple of points on that national body. As I've said, reform must be fuelled or lubricated by very good incentives. Those incentives must be of a scale that will enable our state treasurers to stand up and listen with real interest. Those releasing those payments, I think – sorry, the association believes, should be through a body that is truly independent from the legislative or from the executive arms of national government. So that we have a degree of expertise which is unimpinged or uninfluenced by the political cycles that we operate around the country, and they have two things in particular.

One, the resources to not only incentivise but also to encourage more national discussion and dialogue from competing areas of the industry or from the community, on the forward journey of water reform. But those incentive payments must be in response to the release or acquiescence of certain powers at a state level to an independent, well-resourced, well-expertised organisation that they can respect and participate within. It is a new model. It's a model that's built upon two issues.

One is the adequate funding that is going to be provided to it, to unlock that support of state governments, and secondly the expertise that it would need to ad house on a permanent basis to carry the authority to make actual decisions that need to be implemented, not by a Federal government, but by all state governments with the Federal government and the state governments seeding certain powers around the governance of our water asset.

Returning to a couple of the other points I'd like to cover. The new body does need to incorporate how it engages with organisations from the water sector, including WSSA and AWA. We bring qualities and experience and facilitation to get that body fuelled with more practical day-to-day expertise and experience, as well as taking on a method of communicating more effectively across the industry that actually injects action across the economy through the water sector.

I want to cover next the issue of governance that's been raised and the need that we see for all state and territory governments to clarify their own expectations of their water sector and recommit to a separate policy, regulatory and service delivery functions, including the articulation of a clear statement of objectives for the water sector to acknowledge, not just traditional water security, public health and environment management roles, but also to cover what's been spoken about this morning, on flood, waterway health, catchment health and liveability.

We need very clear specification of authorities between the roles of governments, our regulators and our water supply authorities and I am going to say, push it a little bit further, and to say that what we really see is that independent economic regulation really taken out of the hands of the state governments and vested in an independent economic regulator as we are seeing, probably the best example here in Sydney with IPART, but go further and to remove any likelihood of ministerial interference with the governance of our water utilities.

We are further down the track with some of them, but there are still plenty of examples where we're seeing a very detrimental effect by ministerial interference into a decision that needs to be made by a board of utility which then needs to be implemented by the management which is constantly changing because of political cycles.

Adam has mentioned the issues around TasWater. We've put a very strong submission and appeared before the legislative council to talk about this very issue and to say moving back to bringing that entity within the arm of government, is a backward step of some 20 or 30 years and we've articulated to them the different that they would then be living, against what's happened across other states, and it goes this real interference of ministerial authority into what is a much needed stability and separate management structure for our water services to be delivered to the community.

We need to see the creation of a charter of objectives, roles and responsibilities and accountabilities for the water utilities that is non-discriminatory also between the public and the private ownership or between incumbent providers and new entrants. We need further

clarification on private sector participation, access to capital and competitive neutrality. And I want to pause here and talk a little bit about that because I really like the question that you gave Adam and I want to also give you a few comments about what is the burning platform for competitive neutrality in the water sector. Why do we need more competition?

I want to give you four reasons why there's an absolutely imperative need for more competition now, and they are ranked from the most important down to perhaps important but to a lesser degree. The first is the burning platform here for competition is to utilise the vast amounts of private capital for water infrastructure at a time when our state governments have very stretched balance sheets. We're sitting on a cliff of a real need for further investment that is simply beyond the ability of our state governments to deliver.

We need to be able to take a leaf out of what we've seen done so successfully in Europe and to enable private sector investment. I'm not here talking about privatisation. This is not an argument to say privatise all our utilities. It is an argument to say let's look at better methods to actually utilise private sector investment when we know our state governments have got more compelling targets to invest their funds through infrastructure and education and health.

The second reason is to implement innovation and technology that has been proved by the private sector. And that's where we're seeing tremendous success from our utility members and WSAA utility members where they are using the private sector and as Adam said, up to 75 to 80 per cent or 85 per cent of their services are delivered by the private sector. What do they bring to those utilities? They brought new approaches to innovation. New adoptions of technologies and systems of management that have delivered real productivity.

The third reason is linked to that, this continued journey of improved productivity driven by private sector expertise that are utilities and are actually doing really well. It's something that is not widely understood or appreciated by the wider community, but that role that WSAA has already articulated, is a very important element why competition is so important.

My last reason is, strengthening Australia's international contribution to our Asian region which will bring very significant export dollars and new markets to the Australian water sector.

I want to them quickly now move to a couple of other points, given I've only got 15 minutes for questions before morning coffee. Mention has been made about the clarity of water agencies in delivering integrated water cycle management outcomes and the role of the urban water sector in contributing to liveable cities. The association would like to go further and basically say where there are possibilities for amalgamations, where it does make economic sense, we need a report to encourage that amalgamation.

In New South Wales we've seen very significant slowdowns in this, a lot of controversy. It is a tough political tablet to swallow, but if any tablet was required it is this need for further rationalisation of the number of players we have when we're particularly talking about our non-urban areas trying to supply services and facilities to a very disperse and small population.

The evidence that we've seen in Victoria's process has delivered significant benefits, both economic and relating to governance, that can more than justify it. We'd like to see the role of our local councils and other utilities really thought through and potentially rationalised to give better services to customers.

I want to talk quickly now about water, the water market and water trading in particular. Moving away from just our urban areas, the opportunity or the Commission here is to really address one of the great conundrums that Australia really hasn't come to grips with, and that's putting a proper value on water in rural areas. We have seen progress and we've seen significant change and benefits through the use of water trading, most particularly in the southern Murray Darling Basin where we've seen the yields of land increase purely because of two things; the ability to trade water and the value that that water carries because of the added yields to the crops. This has changed not only land use, but it seriously changed the investment patterns in that part of Australia.

Investment is going into it because they can see that link between water trading and value that's inadvertently placed on water because of the increased yields they can get from different crops using the same land. When we look at this issue of the value of water, any value relating to water would be defined by market place. Any value of any asset in the Australian economy is defined by similar means.

We need to assess what security we are giving our water holders currently in terms of its comparison with a property asset. We need to also look closely at how the Australian accounting standards are actually providing for this growing value of an asset that's been, in our opinion, misdescribed. When you look – and I'll come back to those two issues in a second, but the main issue here, when you look at what's happened in Australia's water trading, there are numerous local water markets that all operate with different value drivers and a lack of coordination. There is an argument, we believe, to have a national water market and we would encourage the Productivity Commission to take on that area of examination and in our submission to you on the draft we'll include further details.

But a national water market is the prime price discovery area for the commodity or for the product of water, a centralised market will enable us to better control and understand the price discovery required by market and it enables us to avoid what we believe has been occurring with some distortions of market, some misrepresentation of values on price and on the trades themselves.

When we look at those issues relating to how we actually value and accommodate water rights, we go to an issue around the price registers. In the trading system at the moment there's a vast difference (indistinct) between a contract price and a settled price, and that difference can be determined by a difference of some 34 weeks to nine months between those two price settings.

The property status of water must change in Australia. We need water to be defined as a tangible property asset. If we look back across the economy, shares are equally as intangible. Shares are however treated as a tangible asset and can be accommodated on the balance sheets of those owners. Land is a tangible asset that can be valued on a balance sheet. Land is no more tangible, I would argue, than water for the owners who might own a large (indistinct) and have nothing to do with the land, they have no physical contact with the notion of land as a tangible asset, but the system of business development and our law, the legal system recognised it.

The association believes it is time now to redefine water as a tangible asset and one of the benefits of this, the main benefit is that it would enable a very quick increased recognition, a value or additional capital that's been put into water that at the moment is undervalued by

what we estimate between five and \$10b just in the last ten years on water trade. The accounting standard need to be reformed to reflect water as a tangible asset.

Commission, we look forward to making a reply or a report on those comments that I've included, but we do see this report as a very good step to engage the wider community, the wider different elements of our economy to replace the emphasis on water as an economic driver and we look forward to taking any questions and to submitting our further details with you at the end of the month. Thank you.

COMMISSIONER MADDEN: Thank you, John. That was comprehensive and I'm glad we're in the water sector with a number of burning platforms that we have. I guess just coming back really to the economic regulations and the barriers to private sector involvement et cetera that you've mentioned. You mentioned the European experience and the like. Again, we're just swinging back to what we talked about before about significant private sector involvement currently.

So again, just from your membership, what are the real barriers that we're facing? I know there's opportunities and there's significant investments that maybe coming. Just that practical, on the ground from your membership, what are the one or two things that are actually real bugbears facing people.

MR MCKEOWN: Look, I suppose it's really the access to look at different investment models, Commissioner, on the water infrastructure requirements or new developments that are coming up, both in urban and rural areas. That traditionally has been controlled by entities that are owed often by state government or an arm of state government and I think there's been not unexpectedly, some resistance to look at those models, and I think the opportunity, the burning platform, is to get private sector investment, but that would require a very significant change in terms of regulation and approach from state owned entities to look at it.

We can see very clear evidence of it and probably the best example of this would be the Thames Tideway Project in London which saw this was not about privatisation, it was about using private capital but it was requiring government to create some very clear regulatory frameworks around that invested asset for a very long period of time that gave the investors security of return, security of ownership and the passage of last resort if issues did fall into place that were outside the reasonable control of them or a utility which would require government intervention. It then enabled much more competition to be opened up in the capital markets which brought down very significantly, the amount of costs that were associated with sourcing the capital which couldn't be done through the government sector.

The benefit of that was you've now got under construction a piece of asset which will service a massive population in the greater London area at a fraction of what the cost would have been if they'd gone down traditional routes, and you've brought in entities with new skills and expertise to run that piece of infrastructure. So that's a model. It's not saying it's transforming what is public ownership into private ownership, but is looking at an alternative form of financing our infrastructure needs.

COMMISSIONER MADDEN: It may be difficult to comment, but we do actually have the private sector involved with the SDP here in Sydney. Are there lessons to learn, not specifically on that contract or anything like that, but just in terms of the wider industry?

MR MCKEOWN: Yes, I think the lessons to be learned on any involvement of the private sector in water services has been borne out by our utility members and WSAA's members which we share and that is there is a great fear and it's built in history and culture of this country, that if the ownership of those water assets is removed or is influenced unnecessarily by the private sector, that there's going to be issues around tariff control and around the reliability of service delivery.

Those two things we believe are very strongly misplaced and they can be clearly removed with the proper regulatory framework as we've seen in the UK and that framework needs to give all consumers and customers the confidence that regardless of whether it's state or whether it's privately owned or whether it's private capital that's gone into a state owned utility for particular assets, that service delivery is sacrosanct and the pricing mechanisms around it are sacrosanct because of the regulation in place. This is a community engagement exercise and an understanding that needs to be further expanded, but the solution is within the grasp of the state government and particularly a new national entity to incentivize such behaviour.

COMMISSIONER MADDEN: Are you happy to continue?

COMMISSIONER DOOLAN: Yes. I am going down another route so you keep going.

COMMISSIONER MADDEN: Just on that national entity, a couple of questions. I can understand the precedent and the template that we've used successfully in the past. I guess there is that question in budget constraint environment, what kind of level of incentives would actually, do you think, engender some response at a state level within the water sector, not a particular number, but is it significant or larger or is it very much program based? So some discussion of that. I guess, not to flag our position, but what's a second best?

MR MCKEOWN: Second best option. Well, look, I think the answer to your first question, Assistant Commissioner, is to say unless its substantial, unless the bucket is deep enough, you will simply not attract the attention of the treasurers or the advisors around them because it won't solve any of their problems.

So it does need to be substantial and the only way you can, I believe, justify the substantial nature of what's required, is by looking at the economic benefits that will flow directly from the use of those incentives. That can be, I believe, shared as an incentive from both the Commonwealth and the state governments together, and I don't think they're in conflict on that. I think the conflict is around state governments not wanting to acquiesce water authority and power to a national legislature which would be subject to again, whims and political interference and then power struggle between two levels of government.

The beauty of what is being articulated here this morning is to create a national entity that has sufficient capital and clout and has the, clearly the teeth to actually intervene in the water sector irrespective of jurisdiction or owner around certain things. Without that you won't get it. But I think if that model was put to them and they were seeing this as not as an acquiescence back to a competing legislature, but to a truly independent authority which is very much aligned with their own interest in preserving sustainable water use and regulating in a very transparent and open way, particularly around policing as we've seen some real issues in New South Wales which gained notoriety through Four Corners, if there was a national entity whose job it was, was to police the regulations or police the rules that are in

place, I think it would be a very different story. But to do that, you'd need very significant allocations of money.

But I go back to the starting point to say it's a question of how you value water as a contributor to our national economy and I'd say it would take ten minutes to 15 minutes of anyone who is a doubter to hear why water is probably, I believe next to education, the most important national asset, and most people in our community would understand this, and would be willing, I believe, to support such a transition of power if it was run on a truly independent basis with the kind of expertise and the treasure chest of funds that they would need to unlock for support from the state governments.

COMMISSIONER DOOLAN: I suppose, to be frank, in a previous incarnation I would have found that a difficult argument to agree to, I think – and it coming back to what is the role of government and under the constitution the states are the water managers. We do find that states are at very different levels of water development and the development of both the resource itself and the institutions within the states.

So actually thinking about then, could a national body of the type that you have described, actually seriously undertake and understand state-to-state issues? So even the models that we have now, the independent economic regulation and as you say, we have frequently seen government pushback on that model and some of its politically driven absolutely, but if you even go behind well, what is the politics driving it, it comes to issues of affordability or other elements of community concern that perhaps the water sector itself hasn't fully taken into account.

So some of the things that those models operate, if you like, you have to have a very strong belief in independence, but you also have to have a real flexibility within the mindset of such an organisation to pick up the drivers and I feel that in the examples that we've had to date, could you point to one where you feel it is successful? Because looking cross the national landscapes where similar bodies have roles outside of water, it's rare that they have actually survived.

MR MCKEOWN: Commissioner, I think you're absolutely right and I wouldn't name an example that's been successful, but I don't think we've seen what I was suggesting implemented before. You've got to get the scale of the vision right to make it work. And I think the point, Commissioner, you are making is that an entity based for example in Canberra, that operates separately from the day-to-day operations of the water issues that a state government contends with, would lose touch and I would be the first to support it.

But what about a model that actually looked at incentivising the state governments to hand over departmental resources based in their own states as part of that new entity for that very reason to better connect with those issues, to better understand them, to give them the real ability to have more nuanced understanding within the jurisdictions that they need to operate that feed into that national body.

The best example of an entity that's created that kind of authority with the true independence, is the Reserve Bank of Australia. Now, if you look at what they do, standing aside different area, standing aside from the arms of interference of the executive of the national government, what we need is a Reserve Bank of water that sits aside, with proper resources in each state and territory in all jurisdictions to help implement and monitor, but be driven by truly national policies that all the states and all the territories adhere and agree to through the

incentivisation of payments. So it's a much better – going back to assistant Commissioner's question, it would be a much bigger scale of change which, you know, we only get the luxury of talking about this sort of change when the Productivity Commission brings forward these kinds of reviews.

COMMISSIONER MADDEN: Yes. We've actually run out of time for this session. The only thing I'd say on this is encourage you to articulate that in a submission, and I think potentially disentangle from the NCP kind of payments model when – think we're blurring two things. Because NCP payments are really a project to buy reform which had an end date et cetera, which is a very different model to a kind of a national body and a regulator and a very different model again to NWI type and NWC assessment kind of thing.

It will assist discussion going forward to really pull out what intervention means in terms of a long role and so that would be welcome to assist the discussion. Thank you very much, Jonathan and Paul.

MR MCKEOWN: Thank you.

COMMISSIONER MADDEN: So we did go a little bit overtime which I think is actually a good thing in terms of discussion and feedback. So we will come back at 11. So we have basically 15 minutes for a quick coffee and a break.

ADJOURNED

[10.47 am]

RESUMED

[11.04 am]

COMMISSIONER MADDEN: Thank you for getting back promptly. So we'd like to re-adjourn the - next we have Sydney Water. We have Phillip Davies and Kaia Hodge. So welcome.

MR DAVIES: Thank you.

COMMISSIONER MADDEN: Again, would you like to start with a statement?

MR DAVIES: Yes, we will do, thank you. I think, as an approach to the opening statement, we thought, perhaps rather than sort of repeat our response, and rather than go over much of the ground that our colleagues previously have covered already, and particularly that the WSAA position, obviously. We are part of WSAA and so we are a supporter of that position. I thought, to kick us off, it might be helpful if I take a particular example of some work that we're looking at, which I think illustrates some of the themes that have been (indistinct) by WSAA, and we can - that will help draw up the discussion a little bit.

So the project I have in mind that I think is perhaps particularly relevant here is (indistinct) and Hawkesbury River around (indistinct) where, if you'd permit me just for a few minutes to outline some of our thinking and some of our plans there, and I think it will lead into some of the key topics. I mean, I was conscious, just as a forward, some of the points that came out of the earlier sessions around, to use that great phrase, "What is a burning platform", came up once or twice. What is the point of introducing competition? Where are we going in competition? What's the imperative? Hopefully it will respond to some of that, and then the

particular themes that I'll come back to that sort of come out of the discussion are concerns around stakeholder collaboration governance - that's one theme - themes around sort of cost effectiveness and liveability, can we have both?

Innovation, are we unlocking the potential for innovation in the industry in the right way? Then one that was also touched on around sort of community value and customers, and I think this Hawkesbury-Nepean work covers much of those grounds in different ways. So just to sort of set the scene on that a bit, the background here is that the EPA is looking to reduce our annual load limits for total nitrogen and total phosphorus at each of our wastewater treatment plants across the six river zones in the Hawkesbury Nepean catchment. The new limits aim to deliver a more appropriate regulatory setting to protect the river from eutrophication, algal blooms, and weed infestations, and from our perspective this framework is a (indistinct) is looking at a more holistic, whole of catchment approach, which I think people recognise as being the right direction to go, particularly for something like nutrient management.

So the proposed framework we're looking at recognises that, historically, and even today, this focus on point source of pollution has its limitations and is not where we'd like to be necessarily, if we had the benefit of a clean sheet of paper. So this framework, if it comes into place, will allow us to trade these load limits with other treatment plants in the zones, and allow us to invest in improvements in diffused pollution sources, such as urban stormwater or agricultural runoff as alternative means of reducing nutrients, and in that way to claim a credit against our wastewater licence limits. So what this does is, by allowing us to invest in new ways, allows us to avoid and forego capital investments that we might otherwise have to make.

So to give you a sense of the order of magnitude of those investments, we estimate that around \$3 billion of capital investments over 50 years, starting in 2024, will be required, given the tighter load limits planned by the EPA, and in terms of bill impact, obviously these are very approximately numbers, but something of the order of \$45-\$75 per year in real terms would be added to customer bills if we go ahead with that sort of business as usual approach. So that's a big price tag for these measures. So how do we find an alternative way forward for that?

Well, to unlock this potential for a different approach requires, in the first place, a set of what you might call trading rules, that allow us to be permitted to do these other things, and for them to be credited and recognised as being equivalent in some way to an investment of a more traditional capital intensive nature to improve nutrient reduction at a wastewater treatment plant, and that - it's a bit analogous to what we've seen in sort of emissions trading and energy, that requires us to come up with a set of rules, an offset trading framework, whereby property rights are defined such that a unit of capital investment of the traditional kind at a wastewater treatment plant can be foregone in exchange for something that is deemed to be equivalent to is.

So an offset, and those offsets can potentially come in in many different forms in terms of the nature of investment that would be involved, and in terms of the timing of those investments, and in terms of the geographic location of those investments. So if you think about it in that way, you immediately recognise there could be quite a big set of questions around the definitions of what is an offset that can be considered as a valid trade off against this alternative type of - this traditional type of investment. So there's an awful lot of groundwork

which is required there to put that scheme in place, and we're very pleased to see that the EPA has led the way on this by coming forward with a framework for the introduction of offsets, which is really promising and does conceptually lay out how this might work.

Potentially, whilst it's always difficult to anticipate in advance what the savings would be, we anticipate perhaps of the order of 50 per cent of that investment that we might otherwise require to undertake could be avoided under this new set of rules. In terms of timing, the EPA new load limits are due to go live from 2024. We are now in a phase of seeking to further discuss these offset trading rules with the EPA, get some more certainty on those rules so that we can get to the point where we can properly invest in some alternative solutions, go through the process with the EPA of seeing if they are happy to deem some of these measures as equivalent to things that we might traditionally do, as replacements for them, and to be in a position where, in our next price control, we're able to say to our economic regulator, "This is our normal business as usual way of doing things. However, we propose to do these alternative measures. Can we get a return on assets - a return on our assets for those investments?"

That raises a series of questions because, of course, these might not all be - as they're not traditional cap exclusions, they might not easily fit with the normal regulatory asset based sort of approach to remuneration, and may require some creativity and thinking about, well, what are the incentives of Sydney Water to make these investments in a normal commercial framework if it's not a RAB based investment? Now, those kind of conversations have been solved in other areas, so they're no insurmountable, but as conversations to be had, and they're just as part of just a wider question of, for a provider like us to be clear, what is the real framework that we are operating against? What is the financial treatment those investments will secure compared to traditional forms of investment, and overall, how is that framework presented to us by both the environmental regulator, the EPA, who will obviously be the dominant party in this, but also by our economic regulator, IPART, because ultimately, of course, they will determine whether our spending is appropriate and prudent and efficient, and all the rest of that.

So that raises for us a lot of questions around, on the one hand, you know, it's something that we are, as (indistinct), passionate to deliver on because we are in the business of trying to be innovative and trying to find new, more cost effective ways of providing solutions for our customers. So, to come back to the burning platform, given the growth agenda which we're all well aware of in Sydney, and investments that are required, there may well be pressures on bills in the coming years as we adapt and change, and grow to meet with the challenges that Sydney has. So alongside that growth we really need to capitalise on every opportunity we can to send bills in the other direction, downwards, and achieve equivalent outcomes at lower cost.

This particular example of nutrient reduction in the Hawkesbury-Nepean River is an example where, one would imagine - or, of course, you never know until you deliver a project, but one would imagine that, against that baseline of a pretty significant wall of capital expenditure that you otherwise face, we're pretty confident we'll be able to find some alternative means of driving benefits that are equivalent to those that would be associated with this capital investment but are just significantly cheaper. But the benefits may come in different forms and maybe nutrient reduction will be a big a part of the story, but one can imagine that there's

many other benefits that stakeholders will value that may be also part of the valuation of the solution.

So for example, things like improving the aesthetics of waterways, providing better access to waterways for recreation, removing introduced weed species from waterways, providing habitats for bird and fish species, using recycled water to ensure that public playing fields are in good condition, investing in river banks so that river banks are maintained and can provide a community value rather than being eroded away. All these kinds of factors, potentially, might enter into the overall valuation of projects that in some way can contribute to avoiding some capital investment and finding a better, more cost effective solution to nutrient reduction.

So I think that is very much in the spirit of what we - the WSAA contribution earlier around the need for collaboration to deliver these benefits, and what it points to in terms of the governance, I think, is what we know is that we are in a highly regulated sector, we're doing activities that have a strong community dimension, we have multiple regulators operating in our space, and against that background, finding ways to actually deliver on some of the aspirations, that we have to do things differently to achieve better results at lower cost, really can be quite difficult, and this is, in a way, quite a good test case of many of those things that we talk about, and this one is relatively easy in the sense that you would call this one a win-win in the sense that, if we get the same environmental outcome, or a better environmental, but the cost is substantially lower, hopefully our environmental regulator will be happy, or economic regulator will be happy, and our customers will be happy.

So in that sense I think it's a really good test case of, you know, can we actually deliver this, and do the policy frameworks - are they suitable to deliver this kind of reform? So I think, as I mentioned before, some of the challenges around getting environmental regulation better joined up with some of the better established economic regulation frameworks is what this kind of goes to the heart of. A couple more themes related to this are, given this regulatory complexity we face, one thing we mentioned in our response is around the importance of thinking creatively about what it takes to unlock innovation, because you take these - the set of stakeholders we have.

Everyone has got their own responsibilities. They're all, in nearly all cases, perfectly understandable responsibilities. Everyone's got their own job to do, but does it always, in aggregate, add up to an environment in which it is conducive for players like Sydney water to come forward, be innovative, and feel like they're being rewarded for being innovative, thus encouraging them to do it again? And I think some of our frameworks don't always put us in that position, and that's obviously not a great situation, and what I observe in other regulatory jurisdictions in - and in other industries, is increasing recourse, for example, to trial environments, or they're sometimes called regulatory sandboxes, where one or two regulators, together with some industry parties, agree to sort of suspended rules to test out some concepts on the basis that this is a trial environment, we'll see how we go, and then the regulators will take a view about what to do next.

So that's just an example of ways of thinking around how we can sometimes try and escape some of the silos that we get into sometimes, and try and unlock and encourage private and public sector providers to come forward with new solutions. That's one sort of important thing that I think is worth thinking about in terms of the reform agenda when dealing with the complexity that we face. The other angle which was touched on that this touches on too, is

around, sort of, the community and customer value focus, which, as I also mentioned, comes through very strongly in your report. I mean, this to me is a far deeper concept than just getting some customer endorsement for some aspects of a price proposal. It's something deeper about how a company like Sydney Water, which is nothing if not about its customers. It's about how do we tap into what customers and communities that we serve really want, and reflect that in our business plans.

So in the example of the Hawkesbury-Nepean case, we are deeply engaging with the local communities on the Hawkesbury-Nepean River to find out what it is that they value, and how we can reflect some of the things they value in our business plans. So as well as looking, if you like, top down at nutrient reduction, what actually are some of the valuations that that community has, and how do we reflect them in some of the projects that we deliver, and then in turn, how do we play that back to our regulators and says, "This is what is valued to the community - communities and customers, and is a basis on which perhaps business cases should be looked at in a new light".

MS HODGE: Can I (indistinct) with land use in Western Sydney?

MR DAVIES: Please do.

MS HODGE: Yes. So, like with Western Sydney, we're talking about building a city the size of Adelaide and Canberra, and 90 per cent of that development is in one of the sub-catchments of the Hawkesbury-Nepean, which is South Creek, and when you look beyond the traditional water servicing framework that we need to satisfy, and that has these particular challenges in relation to the wastewater management for the Hawkesbury-Nepean, some of the other things that start to come up that start to raise the issues of going beyond the remit of what are utilities as they currently stand relate to things like stormwater management, and it's desegregation, and it's lack of a link to the types of outcomes that we need for Western Sydney.

It's hotter, it's drier than the rest of Sydney. It's going to have a large population, and it's been flagged as a parkland city in order to ensure that it attracts people to live there and isn't sort of like a brown, dry place where people live and, you know, just move around the city to get to their jobs or to the places where they'd rather go swimming or playing sport of whatever. It needs to be a place that actually attracts and retains its communities. So in Western Sydney we might be talking about a scenario where we need to use more water rather than less water than we currently do for other parts of Sydney, and we need to look at a diversity of where you might use - where you might source that from, and how you might actually manage that at different scales at local, at regional, and precinct scales, to get the type of broad outcomes that you need for the whole of the river, but as well as that, the communities themselves.

So a cooler, green environment which requires water to support it, and it isn't part of the current planning paradigm for most of the utilities around Australia. When we look at the stormwater management across the Hawkesbury - across Western Sydney, there's already probably been \$3 billion earmarked for local government to build stormwater infrastructure, and there's probably another \$3 billion that will be required in plans that are yet to be delivered, and that's on top of the \$3 billion that Phillip talked about needing investment in wastewater, to actually find the types of outcomes that we need. It's all being planned separately, in different timeframes, and without clear outcomes in terms of not just water

quality management, but also in terms of urban amenity and efficiency, and affordability, and cost effectiveness, and we need to actually bring that together.

So in terms of the regulatory sandbox that Phillip was talking about as a concept as well, with South Creek it's been a recognition within government and sort of action through Infrastructure NSW where the premier has said that we need to do a sector review which effectively looks at the planning for South Creek, with a water and land use lens, and how to actually marry these up so that we get the outcomes that we need, and it's actually - it touches on all of those things. Like, what are we aiming for in South Creek? What are the objectives for the waterway? Is it a pre-European waterway that we're trying protect, or something that's highly modified, providing parkland open space and cooling for local communities? It's a part that a utility like us has a critical role in, but it isn't a space that we've played in traditionally, and we certainly don't have, currently, the regulatory and the economic mechanisms that would allow the outcomes that will be needed there.

In terms of collaboration, it brings together the role that Sydney Water, as a utility, and local government, need to play in terms of managing the whole of the urban water cycle there, right up into the catchments in the street drainage, down through trunk drains and into the waterways themselves. Irrespective of institutional arrangements, irrespective of current regulatory settings, what's really, really clear is that they need to be planned together, because without doing that we're all going to be doing our own things, and we're all going to be pulling in different directions, and we'll all regulatory uncertainty in terms of what costs that we can recover, because we're doing things that are not clearly driven by our current operating licences, the section 94 contribution schemes that IPART oversees, and IPART's saying quite clearly, what it needs to enable it to do the appropriate pricing determination around that is clarity of objectives enshrined in certified government policy, in whatever frame hat might be.

So it might be through land use planning instruments, it might be through other things that are required, but basically, South Creek is a bit of a hot box to actually try and get urban planning and water planning to work together, and it's the first we've seen of it in Sydney for a long, long time, and it's basically seen as being a template for what we might need to do elsewhere.

MR DAVIES: And building on that, I think, coming back to one of your other questions perhaps we haven't touched on yet, is around the competition agenda. I mean, I think we would take the view that, I mean, a key feature of this offset trading scheme if we get it in place, is that it is about a creation of a set of property rights, so deeming that certain activities, or certain units of certain activities, can be deemed to be equivalent to other activities because they produce the equivalent environmental outcomes. In creating property rights you enable competition, basically, because the implication of that is that not just Sydney Water can provide those solutions.

If it's defined in a way that another provider, public or private, can deliver the same outcome, well, then why shouldn't they have the ability to deliver that solution, or to come to us and say, "Sydney Water, how about forgoing that piece of capital investment, because we've got a smarter way of delivering the same outcome for you?", through a different technology, or a different means. So the benefits of these sorts of schemes go very far and wide, because they can potentially make it easier for new entrants to come into the sector in different ways.

Now, the flipside of that is that these sorts of schemes, while fantastic concepts, and there's many great case studies across the world of these schemes' living value, is that they do require some supervision and oversight, and maintenance on a fairly regular basis, because these property rights need to be created, and they then need to be - there needs to be some sort of market body overseeing them and answering all the questions that arise about them as some new provider comes up with a new idea and says, "Wow, this is a great way of solving that problem. What do you think?" Someone needs to be able to give them a response that says yes or no that's acceptable within a reasonable timeframe. Otherwise, the incentive to seek out those solutions is obviously diminished, and that's where we run up against, perhaps, some of the governance challenges that we've talked about in the sector, which is how do we unlock this desire to innovate in the sense of being able to have regulatory mechanisms that provide ways of dealing with these issues?

In this sort of world, for example, one thing that we have to manage, understandably with the EPA, is the scientists are obviously very concerned about the real, actual scientific health of the Hawkesbury-Nepean River, and there'll be some natural scepticism about, well actually, are certain measures really delivering the same outcomes as we think they are? How do we know? Or if they're delivering them today, will be as good in five years' time? Is it really the same sort of measure? So there's an understandable tension, to some extent, with the scientists around, you know, what's really equivalent here when looked at through different lenses. So again, that - there needs to be ways in which those kind of issues are sorted out to everyone's satisfaction, which again sort of highlights that it can be quite intensive to - or risk being intensive if can place these sorts of schemes.

So we don't want to make it more composite than it needs to be. The reality in the Hawkesbury-Nepean River in that - is that we are, far and away, the largest party. Most of the water treatment plants are ours, so it's - arguably it's sort of trading within Sydney Water, some of the solutions, but that's fine. If that delivers the results to customers, that's fine. Equally, if it can be opened to third parties to participate, from a customer point of view that's even better, but I think, hopefully, on a number of fronts, that kind of illustrates, you know, why we think competition and contestability is important and it's something that we should strive for. It illustrates the importance of collaboration and thinking about how we organise and interact with our regulators in perhaps new and different ways to what we've traditionally done, to unlock these solutions.

It highlights the importance of thinking about the community and customers, and also, hopefully, about, you know, the water industry obviously isn't seen as very innovative. Well, I think one of you asked a question before, "Well, are we ready to go?" In this example, we are definitely ready to go. Our chief executive is very passionate about this, constantly wants to know where we're at on progress on delivering the scheme, and I treat, you know, our plans on the Hawkesbury-Nepean almost as a commercial project. We've got a timeline to deliver against. We need to lock certain things down with the EPA by certain dates, otherwise we won't be able to say certain things to IPART on our next business plan, and if we're not in a position to do that, if we don't have enough regulatory certainty to do that, then we risk at least deferring some of these benefits, and the result of that will be, customer bills will be higher than they need to be.

So that's an example of, you know, real cost, a burning platform, if you like, if we don't break through on some of these issues, you know, and there's lots of good will out there, but I can't

sit here today and say I'm 100 per cent confident this will happen, because I don't think we're in that position yet. That of course is - as Kaia says, this is a big agenda. It's part of the South Creek agenda, which is obviously a big focus for the government, but it's not the only case study we could sort of bring to you around some of the challenges that we face in making regulation work better.

COMMISSIONER MADDEN: Okay, thank you. I think it's very good that we actually get tangible examples of what we're talking about, rather than abstract.

MR DAVIES: Yes.

COMMISSIONER MADDEN: I didn't know the terminology sandbox, but I will mention -
- -

MR DAVIES: I take it back.

COMMISSIONER MADDEN: I will mention that there's an annual water quality incentive payment that IPART did allow Sydney Water and Water NSW to actually have payments for works in the Sydney catchment authority area, and in a sense set that aside, so you could actually get works that actually would reduce costs in treatment plants at Prospect, et cetera.

MR DAVIES: Okay.

COMMISSIONER MADDEN: So there is precedent already in terms of a regulator allowing the exploration of that type of activity.

MR DAVIES: Okay.

COMMISSIONER MADDEN: So you might want to use that. One thing I do want to come back to is the roles and accountabilities in terms of planning, because I've personally - sorry, the Commission, actually, think it's fundamental, in terms of them progressing from there about who pays and who has ongoing roles and responsibilities, and then this issue of pricing those. The example that you talk about in terms of liveability, the different beneficiaries, and really that kind of role is an accountable risk. What is it that Sydney Water are looking for - and you talk about timeframes - what is the kind of improvement and expectation that you need in that area, within a certain timeframe, to allow this type of project to be pursued?

MS HODGE: The certainty around objectives is really critical. The remit for water utilities is not quite clearly beyond, you know, security, quality, health outcomes. The expectations are quite clearly around doing things that include things like protecting waterway health, not just as a pollution control responsibility but as an outcome that is required by communities to actually ensure that the type of cities and communities that we want are enabled by their living environments, and things like the role that water plays in cooling and greening, similarly, needs to be quite explicit, and the importance of that at sort of like a state and national level is starting to become more clearly articulated and enumerated as well, as the link between living environments and human health outcomes and levels of mortality are more clearly captured by the health sector, and you can actually place dollar values around things like the impact of controlling extreme heat on vulnerable communities in terms of level of morbidity and mortality.

So in terms of articulating why those types of objectives are (a), important; and (b), must be linked to deliverables by the water sector, there's work happening there and it needs to be

captured, and it should be universally applied as a set of, I don't know, principles of guidance at a national level, because it's not just important in Sydney. In fact, Sydney probably has a little bit less acknowledgement of how important it will be for it in the future as we get more extended heatwave conditions, but Melbourne and Adelaide already get it in that regard. They know that they had more deaths during the Melbourne fires from heat than they did from the bushfires themselves. Their auditor general started to do work around capturing those sorts of statistics.

COMMISSIONER MADDEN: So that's about the issues and objectives. I am just interesting in exploring South Creek in particular from your perspective. Again not to make judgments, but et cetera - you know, the roles and responsibilities and overlap and gaps.

MS HODGE: Yes.

COMMISSIONER MADDEN: Who are the other players in the area? Where do you see actually overlap between that kind of objective? Is it health's responsibility? Is it planning's responsibility? Is it local government's responsibility? How do you actually integrate?

MS HODGE: So something that we're seeing in Sydney that we haven't had previously is, the Greater Sydney Commission has been coming sort of in over the top of all of the agency objectives setting and basically saying, you know, like, "We have three Sydneys: a harbour city, a river city, and a parkland city. That means these are the sorts of outcomes that are required for those communities." That then gets taken by urban planning agencies, so Department of Planning and Environment. It needs to be embedded, then, into planning instruments, but that alone isn't enough to ensure that we get the outcomes.

So at each of those levels there needs to be the drivers for the things which, when it gets down to servicing a precinct, whether it's by the private or the public sector, that it's very clear the way that they go about it, what the outcomes are in terms of measurable things like nutrients, like water balance, like water available for the environment and how it will be used, water available for public spaces and how it will be used, and there are many tiers for that, but it needs to be articulated in terms of what the drivers need to be at each of those tiers, because otherwise it has a wonderful vision that never actually finds its way to the ground, because sooner or later you come a cropper with something that doesn't actually enable an entity like ourselves to implement for the outcomes that are desired or required.

So it might require a reflection in a land use planning instrument, it might require a reflection in our operating licence, it might be in a development control plan or a set of codes, but the principles around the need to drive a broader set of outcomes for an through water utility providers needs to be articulated, and it might be expressed quite differently in each jurisdiction, but the need for it to happen and to be embedded into those things is actually critical. Does that answer your question?

COMMISSIONER MADDEN: A little. I guess this distinction between what's the role of water utility versus a local waterway manager, versus a local government, and I can see in a greenfield situation designing that, for a particular area, for a - to get a - to reach a particular objective.

MS HODGE: Yes.

COMMISSIONER MADDEN: I just think, well, what do you design there in terms of roles and responsibilities? Does that have wider - for Sydney - let's just focus on Sydney at this stage, obviously.

MS HODGE: Yes.

COMMISSIONER MADDEN: Does that have wider implications? What do you do if you go to the eastern suburbs? What's your role there? I mean, are you casting different roles and responsibilities in different areas across the city?

MS HODGE: So already we have different roles and responsibilities across different parts of the city.

COMMISSIONER MADDEN: Yes.

MS HODGE: In terms of water and wastewater management, it's much more uniform, although with private sector entrants it's becoming a little bit more nuanced. In terms of stormwater in the eastern parts of Sydney where the older stormwater systems are, we're quite often the trunk drainage authority, and our responsibility is tied to the assets that we have in those parts of the city. So we don't have an explicit responsibility around waterway health outcomes for waterway management, but if a waterway has been lined with concrete or bricks, or it has been enclosed in a culvert or piped into a pipeline, and we own those assets, then that is our role as a stormwater manager to maintain those assets.

In terms of how we've tried to take that in recent years, and this touches on the shared responsibility and the concept of collaboration and what it can and can't deliver. If we take an example of the Cooks River where we own the asset, which is the Cooks River, because it's got a concrete lining, but council also owns bits of the Cooks River, and council also owns stormwater assets within its catchment. In that instance, we've worked with local government to set a master plan for what we would like the Cooks River to be, and as our assets come up for renewal we look at the opportunities for naturalisation, but the only driver for us to get a different outcome for the environment and that community is that there is an asset that is needing repair or renewal, and it's as cheap to do it in a naturalisation way as it is to reline it with concrete.

In terms of getting the broader outcomes though, the master plan has been development with local government and they have things that they want to do in the catchment that will actually work together with what we're doing to try and get the outcomes. So in terms of intent and a common vision it's all good. In terms of the ability to deliver on that, it's really fraught, because where we might see value in investing in a council part of the system, it's an Opex expense for us, but it would be a Capex expense if it was in our own part of the system for the same piece of infrastructure, or the same wetland, or the same type of management solution. In terms of sharing costs with local government, their buckets are usually much smaller and spread over a much longer timeframe, so if you have a piece of work that's multiple millions of dollars they simply may not be able to accommodate it on their works plan to deliver in an efficient and effective timeframe and cost, so part of our challenge is actually getting agreement on how you share costs.

COMMISSIONER MADDEN: So to move those lessons, then, out to South Creek, are we talking because growth is our burning platform?

MS HODGE: Yes. Yes.

COMMISSIONER MADDEN: What do you really, then, see as the best model in terms of roles and responsibilities going forward for a utility like yourselves, a water utility?

MS HODGE: Yes.

COMMISSIONER MADDEN: Is it that there should be some kind of delineation or extension of your role, so you're not repeating mistakes in the past? I'm just wondering what's the vision in terms of roles and accountabilities in new developments where we're seeing major growth.

MS HODGE: Yes, so we're quite clearly with a role in coordinating the planning at a water cycle level to respond to the objectives that have been set by government and land use planning authorities. In terms of how those plans are delivered, there's a number of different ways that it could happen, but one thing is clear, both in new areas and existing parts of Sydney, that what everybody is looking for is a single point of accountability for water by health. So if you're going across multiple council jurisdictions, then putting council in charge of the outcomes for the trunk drainage and the waterway itself is actually - it's fundamentally problematic.

So I think that there's arguably a role for a utility to take on that role, and the Melbourne model actually has a lot of advantages in that regard, and in terms of what it might look like, but modernised a bit, it's a role that we do have in the Rouse Hill development area, which is another part of Western Sydney that was developed in the 90s and the 2000s.

COMMISSIONER MADDEN: Yes.

MS HODGE: But beyond that, the point that you made around responsibility for operations and maintenance, whether the parts of the system - like, Melbourne would be the - you know, like if we say, put the Melbourne model into South Creek, you still have the problem of funding and maintaining the stormwater infrastructure imbedded into the catchments, which is critical for the outcomes, and councils are chronically underfunded and concerned about their revenue streams to enable them to do that. So I think we need to be a bit more clever about how we identify what the efficient costs of managing those systems are, and how and where we recover that revenue from.

Like at the moment Sydney customers, where we've got responsibility and council have responsibility in the same catchment, customers will get a stormwater bill from council and a stormwater bill from Sydney Water, and they're going, "What's going on?" Now, you know, the concept of actually looking at what the efficient costs of running the system are and then putting it through a single pricing recovery mechanism, and then allocating that according to who needs to do what makes a lot of sense to me, but I don't see that model anywhere at the moment.

MR DAVIES: Just to build on what Kaia's said, I think part of this is that, whilst we are looking, there are some points of clarity and principles we can say, to answer your question about specifically the way things should be organised, in certain cases. The nature of decentralised solutions is there won't always be a one size fits all approach that you can apply to different projects, and part of it, as well as making demands of our stakeholders to organise themselves in different ways, comes down to a company like us taking charge of the outcomes we want to deliver and being very clear with all the people that we need to work

with, to say "This is what we need from each of you, and this is how it all comes together into a plan".

But the nature of that solution may be different in different locations, and indeed, you know, if we're serious about taking community and customer preferences into account, it should be different in different locations, because customers and communities are organised differently and have different ways they want things organised sometimes, and what we do is, by its nature, a very community based service. So there's a bit of tension between your general guidelines and some things we can point to that clearly should be organised a little bit differently versus allowing some scope for bespoke solutions and empowering companies like us to come up with the right solution for the right problem.

COMMISSIONER MADDEN: Yes. Yes, I understand the point, and the point is, I think, I'm just trying to get to is there are underlying reforms that would help you to be localised, actually efficiently, provide localised solutions.

MS HODGE: Yes. Can I just add one thing in that?

COMMISSIONER MADDEN: Yes.

MS HODGE: In Sydney, like, through my working career I've seen at least three occasions where institutional reforms to stormwater have been investigated with a lot of effort and a lot of really good analysis behind it, but when it comes to the crunch they haven't gone through. So I wouldn't put all of our eggs into an institutional reform basket, because there's a real risk that it's politically too hard, and we need mechanisms that can actually be more politically robust than that.

COMMISSIONER DOOLAN: So just following that thought, because like you I've seen some of those schemes fail, is it truly about certain areas, the growth areas? Is it about getting the agreed to plan for those growth areas? As you said, the key difference in South Creek is government said it wants a water and urban plan - urban land use plan together for that area.

MS HODGE: Yes.

COMMISSIONER DOOLAN: And if that plan is mandated by government, and then - so the good work is done, and then it gets agreed to and has some status, does that help and work through to your regulatory arrangements and authorities? So, I mean, we can try to sort of go - mix roles and responsibilities that have been set for traditional areas, we're having - finding it difficult making them merge to fit new ones. Institutional reform is very difficult, and also hard to pick exactly what the successful model would be. So do we recast it around, well, we all work together on a mandated plan, and the plan becomes the vehicle that filters back into our roles and responsibilities? Is that how that South Creek is operating, and how do you think those sorts of models have worked, if you've seen them work before?

MS HODGE: So South Creek will be a means of exploring how, from the plan - - -

COMMISSIONER DOOLAN: It could work.

MS HODGE: - - - you go into the allocation of responsibilities.

COMMISSIONER DOOLAN: Yes.

MS HODGE: I think that it will have other things that need to happen. So, for instance, if the land use planning is pushing for things that really need to be enabled by, say, an operating licence, then we need to have that conversation with IPART when we're reviewing our operating licence.

COMMISSIONER DOOLAN: Yes, of course.

MS HODGE: Yes. It's not just a greenfield problem or solution though. We're seeing redevelopment through the existing parts of Sydney which has just as critical issues to resolve, and has probably more segregated problems in terms of accountabilities, but more council boundaries, more existing, you know, chopping up of asset ownership and stuff like that. I think that the - that similar mechanisms that get driven from the land use master planning within those areas can help. They're not going to be a panacea for everything, but the - I think that without the plan we've got - without the clear policy objectives and without the plan we've actually - everybody knows that there's other things that need to be done, and that someone should be doing it, and we're all trying to work together to figure out how to do it, and it's probably in those situations where collaboration is actually our best solution at the moment.

COMMISSIONER DOOLAN: Vehicle.

MS HODGE: But, you know, until we actually demonstrate - and it might be through collaborative efforts what models work well in different locations - I'd be disinclined to take the next step in terms of institutional change or asset transfers and things like that. See how far we can get with collaborative (indistinct).

COMMISSIONER DOOLAN: If we move with that plan - so government said it wants one - what sort of level of government endorsement of the plan - like what's the other end of that planning process? Government has to endorse it in some way, for then it to filter through to affect the allocation of roles and responsibilities and how regulators behave.

MS HODGE: Yes.

COMMISSIONER DOOLAN: So is that what is anticipated for that plan?

MS HODGE: With the South Creek example, which as I said is sort of like a new sort of template for doing things, it will actually go to the cabinet infrastructure committee.

COMMISSIONER DOOLAN: Right.

MS HODGE: And that will actually give it its mandate.

COMMISSIONER DOOLAN: Yes.

MS HODGE: But through, like, the normal planning processes, we don't necessarily have that type of imprimatur. One of the things that the Greater Sydney Commission has been working on is Growth Infrastructure Compacts, which are basically looking at the outcomes envisaged for development for a growth precinct, and all of the infrastructure that's required to enable the outcomes that they're seeking, and whether we can actually pull that together into a single business case for the infrastructure that looks at the full package of the value that it provides and the costs that are imposed, so that there's no gaps or double counting in terms of the way that you do the economic analysis.

That type of thing is the type of thing that can also get very clear government imprimatur in terms of "This is the infrastructure that's required. These are the objectives that we're seeking", and from that, you know, the divvy up of who delivers what elements of the infrastructure can follow.

COMMISSIONER DOOLAN: Yes. That can take a long time, and the development is almost finished by the time you're finished.

MS HODGE: Yes.

COMMISSIONER DOOLAN: So there's a time imperative here.

MS HODGE: Yes.

COMMISSIONER DOOLAN: It is a wicked problem, but it's one, clearly, that the water - they're boundary issues. Boundary issues are always wicked problems, so it's clearly one that the water sector needs to really engage in. I mean, it was very helpful to get that example to be concrete about it.

MR DAVIES: Thank you.

COMMISSIONER DOOLAN: Also nice to have an example where, from what you've told us, it is an obviously win-win for everybody.

MR DAVIES: Yes, exactly.

COMMISSIONER DOOLAN: So it's just how to make it happen, rather.

MR DAVIES: Absolutely.

COMMISSIONER DOOLAN: Yes, so it's a good case study from that perspective.

COMMISSIONER MADDEN: It may be a good case study where it may not cost more - cheaper for customers. It might be a better case study to explore the issues of who pays for liveability.

COMMISSIONER DOOLAN: Well, \$75 per bill is quite cheap.

COMMISSIONER MADDEN: No, no, I - - -

COMMISSIONER DOOLAN: Avoided - avoided.

COMMISSIONER MADDEN: It is actually when costs actually would be put onto customers - - -

COMMISSIONER DOOLAN: Yes, that's right.

COMMISSIONER DOOLAN: - - - for maybe, potentially, services outside those mandated, that would actually flow the issue.

MR DAVIES: But I think the particular reason for raising it was because it's a bit of a test case of our governance and our effectiveness of our regulatory framework, isn't it?

COMMISSIONER DOOLAN: Yes, yes.

MR DAVIES: Which is what the purpose of the report is about.

COMMISSIONER DOOLAN: Yes, without raising some of those issues already.

MR DAVIES: Yes. If we can't deliver that, then you'd be a bit concerned about the effectiveness of our framework.

COMMISSIONER MADDEN: Yes, okay. Is there anything else, or any other comment or statement, or gaps in their report that you want to mention?

MR DAVIES: I think that's - - -

MS HODGE: The only thing that we didn't cover with stormwater was flooding, and I guess I'd just like to say, it's really critical.

COMMISSIONER DOOLAN: Yes.

MS HODGE: In the water industry itself we tend to talk about it in terms of nutrient impacts on receiving waters, because that's been where it bites with us at the moment, but flooding for communities is really critical. It's not just riverine flooding, it's flowing within existing - you know, like, out of culverts and things like that.

COMMISSIONER MADDEN: Yes.

COMMISSIONER DOOLAN: Yes.

MS HODGE: When you start to pull together water, wastewater, stormwater for the waterway outcomes, and recycled water, you have to tackle flooding as part of that mix. You can't manage it separately, and therefore that accountability needs to be clearly allocated with the other things that you're trying to achieve within a greater water cycle management. I think I'll just leave it at that.

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: Right. Thank you for that. It sounds like a busy time for the regulatory and planning team at Sydney Water going forward over the next few years.

MR DAVIES: Always is.

COMMISSIONER MADDEN: So next I'd like to call Roger Woodward. Roger has asked to make a short statement, and he's from Hornsby.

MR WOODWARD: I certainly am. I'd like to first thank Sydney Water. They actually allowed me to do an inspection of one of their water - wastewater treatment plants. I was the - an independent candidate in the 2016 federal election for Berowra, and the Hawkesbury River actually forms part of the northern boundary of the Berowra electorate. To really understand water you actually need to have a look at a topographic map, because once you start understanding the structure of the area that you live in and the people live in, you start to get a better understanding of what's possible and what needs to be done as far as the planning and design and ultimate solutions.

My grandfather actually owned a poultry farm up at Mount Kuring-gai, and that was back in the 19 - late 1940s, and there was a lot of discussions going on then between the commercial fishermen and my grandfather about the nutrients that were going to flow into the Hawkesbury River. So these are to new questions, and it then continued forward into the 1970s when we started to introduce high-rise or multi-storey apartment blocks in the Hornsby area. Now we're actually seeing it go a step further, with much higher housing density, which brings in some of those issues as far as nutrients and what that impact is going to be. I'm extremely pleased to hear some of the comments that I have heard from Sydney Water this

afternoon, because a lot of those issues were what was raised with me when I was door knocking.

I'm actually one of those people that believes we should have a national riparian buffer to protect our waterways, and particularly our rivers. We've seen that work extremely well in Western Australia with the Swan River. It's one of those areas where water is critical, and we're actually seeing a really great result where people can go fishing straight onto the waterway, whereas when you go overseas and you see these built up concrete culverts and areas where they've simply dumped waste or - wastewater or other contaminants, they've effectively killed the river. The Hawkesbury River is very special to many people, myself included, and in fact, from an Aboriginal perspective a lot of the totems are based around that river way, so it's incredibly important and significant, and you'll find people get really emotional, and I really do appreciate Sydney Water sitting down and talking to people and listening to their concerns.

The water quality, to me, is critical, not only from a business perspective; we have commercial fishing in the area, we have oyster leases which have been devastated by the ponds and the POMS and the QX disease, and so it's not only about the income going forward, it's fourth and fifth generation commercial fishermen and oyster farmers that have been wiped out, and again, you will - until you actually speak and see people's faces, you don't know the impact that these sort of policies have. I am a little bit concerned with the concept of trading, you know, what's good in one area against, "Well, we'll just make the pollution available in another". I understand the economic rationalism for it, but it's not the solution for my community. We need to get it right everywhere.

As far as, you know, the use of the Hawkesbury River, there's not only commercial fishing, there's the tourism, there's the recreation and also just the desire of more people, as the density increases, to get out onto the water. It is a balance, but if you can't make it work for everyone, you'll find people will get more and more agitated, and when the people in the Berowra electorate get agitated they write a lot of letters. It's a great area to live, and I've been there all my life. The housing density has raised some really challenges, and I'll come back to that. As far as the boundary for the Sydney development is concerned, it actually runs along the Old Northern Road, and again, if you look at a map you'll see that's where the ridgeline is. I can actually understand now why they're saying, "Well, this side of that ridgeline will be for the park type development, whereas the other side of the ridgeline is going to be for the water development, whereas when I was looking at it, it seemed to me to be quite an arbitrary allocation of where that division was, and I actually have a better understanding of why it's been done now.

I'm glad to see that commitment is going in to the Hawkesbury River. I think it is actually a really great area to do some modelling. I acknowledge the work that's been undertaken in the ACT where they're doing the excavation and building to protect the waterways before it actually gets there, and to Hornsby Council's credit they did adopt one of my suggestions about putting in these sort of filtration traps, and we're now actually starting to see frogs in the areas that flow into the creeks, into the Hawkesbury River. The ecosystems will recover, but it does mean we've got to spend the money, and if you spend the money, then we're going to be much better off in the long-term.

I'll come to the funding a little bit later on, because I am also a chartered accountant, and I'm a member of the sustainability discussion group for Chartered Accountants Australia and

New Zealand, so traditionally what we, as chartered accountants do, is we talk to our constituent body and they make representations on our behalf. I got a little bit frustrated this time and decided I'd run for parliament. The ability to use the Hawkesbury River, I think and do this type of modelling, I think, will really have benefits for Australia. My brother lives in regional New South Wales, and they certainly suffered with the drought, and I actually believe that concept of a national riparian buffer would equally apply to some of our inland rivers as well as the rivers in northern Queensland. The pushback you obviously get is access to the water for the farmers and the graziers, but at the end of the day they don't have a long-term business unless it is sustainable, and they understand that.

I think you would miss an opportunity if you don't travel up to the Northern Territory and speak to some of the custodians of the land in that area, where they're dealing with the billabongs and the waterways, and if you can actually get them to talk to you about what their issues are you'll learn so much more that you can transfer back into our area. We've only, just now, in the Berowra or Hornsby area, started to introduce patch-like burning of the bush so that we can actually mitigate the risk, not only of the bushfires, with the potential impacts on the environment, but also it gives the opportunity for the animals to move from area to area, and that's just, you know - it's taken us 200-odd years to listen to what the Aboriginals were doing well before we got here, and it just makes sense when you look at it from that point of view, whereas a lot of our history comes from the Anglo environment where they have plenty of water. You cleared the land, you grew the crops, you let it settle over winter, and that's what they've tried to do here in Australia.

We don't have the depth of the soil to do that, we have fast flowing runoff, and we have huge sandstone areas underneath the ground that actually act as a filter. So traditionally this water has been purified as it gets down to the Hawkesbury River, and we're losing that to some extent because, yes, we have applied some really great infrastructure, and I hear the comments about the \$3 billion new Capex, but we also have very large repairs and maintenance that hasn't been done because people don't see it. If we have this water quality monitoring in place, I think that would enable a lot more data to provide evidence that this maintenance work needs to be done, and I would encourage people to start thinking about using the river system and the creeks kind of like the Internet of things, using buoys or monitoring equipment to gauge water quality and those sort of issues, because the more data you have the easier it is for me to get up and argue that something needs to be done.

I heard some comments earlier on about accounting standards. We actually - we as in the chartered accountants - we actually were in touch with government, and they introduced an Australian water accounting standard, and that's actually managed by the Bureau of Meteorology. It doesn't get us all the way there, but it was one way of introducing a system that started the measurement of water, and I'm a chartered accountant, so I like to measure things and, you know, that's just part of what we do. As far as actually introducing an accounting standard that requires companies and businesses to report, that's actually the responsibility of the Australian Accounting Standards Board. I've made representations to them on that issue for CO₂ emissions and use of water. That hasn't occurred at this stage, and often the response you get is that that's commercially sensitive information, but it's something that either has to be mandated or it's not going to happen.

But what the market has done is rely on what we call sustainability reporting, and that has driven - sorry, it doesn't form part of your financial statements, but it is a separate report that

deals with these issues, and when large listed corporations on the stock exchange then turn around to seek funding, it's those companies that can provide a sustainability report that get cheaper funding. So it's all driven by the information that is relevant to the people providing the capital. We haven't got there yet as far as, you now, companies that aren't listed on the stock exchange, and I know that information is only anecdotal, but it certainly has an impact, because large listed corporations don't prepare those reports unless they get a benefit, and the benefit they get is cheaper - the cheaper cost of capital.

I think we also need to start considering manufacturing water. I've heard the comments that were made in relation to South Creek, and there's only going to be so much water available for that area, and I think some sort of analysis needs to be done that, okay, if we're not going to get enough water out of the Warragamba Dam then maybe we do need to start considering pumping water to that area using manufactured water, and a simple - well, simple - nothing is every simple when it comes to water, but an analysis of what it would cost and what the impact would be, would meet that definition of cost benefit from my perspective. I'm a big supporter of water pipelines. I think if we can develop a national grid of gas pipelines, then water pipelines should be a no brainer. It just gives us that ability to use the same type of technology, i.e. a big pipe, and move water around to where it's needed.

I know there is a cost involved, and I have a real interest in knowing what it would cost to manufacture water in Queensland, take it to the Wivenhoe Dam, and ship it down through the south Darling, or top that area as well, and I think when you start looking at the amount of water that is drawn out for cotton manufacture, and the cost that applies to that water, it should be treated as a business, and the cost of manufacturing the water, whether it is actually done or a calculated cost, would be a better determinant of the market of that cotton, and what price should be charged, and if they can't - if that doesn't meet the cost of the infrastructure, then that cost can actually be used to improve the system itself.

As an accountant, the sustainability accounting - we simply don't want to repeat the same mistakes that we can see in Europe where they've concreting everything. We don't want to repeat the mistakes in the US where they just treat it as a dumping ground. It's going to cost money now, but it will actually improve how we live in the 21st Century. When it comes to the harmonisation, that's always a difficult issue, but we had exactly the same problem with the corporations law for each state, and so what they did was they got a bunch of the treasurers together and they came up with a compromise, and we have - now have national legislation for the corporations law. So it can be done; it's not easy, and it requires political will. If you have any other questions - well, any questions.

COMMISSIONER MADDEN: Thank you, Roger. Particularly in the water industry in the urban sector it's always good to have consumer/community perspective, because we often deal directly with utilities as opposed to customers, which is a little bit different in the rural sector, where irrigators are more than happy to come meetings like this. Jane, do you have any questions

COMMISSIONER DOOLAN: Not really, but it was excellent to get an external perspective on the issues that were raised in Hornsby from Sydney Water, and just to, I suppose, get that almost validation of some of those issues.

MR WOODWARD: And I really - I mean that. It was really good to be able to, as an independent candidate, to just sort of ring up and say, "Look, can I go along?", and they said,

"Well yes, you can", made the time to actually show me around, and then quite readily explain, "Well look, if the building is constructed on this side of the ridgeline the water is going to flow into the Hawkesbury River, and if it's on the other side of the ridgeline it's going to flow into the big wastewater treatment plant and be shipped offshore, and that's why we now have such pristine coastal beaches. So my challenge to you is make the Hawkesbury River as pristine as what our beaches are.

COMMISSIONER MADDEN: Thank you, Roger.

MR WOODWARD: Thank you very much for the opportunity.

COMMISSIONER MADDEN: So just before we conclude, is there anyone else who would like to appear today before the Commission?

MS PICKERING: I might just make some brief points.

COMMISSIONER MADDEN: Yes. If you'd like to come forward and introduce yourself.

MS PICKERING: Thank you. I'm Lyndall Pickering, representing the Greater Sydney Commission, and I thought it would be useful to make some comments today, because we've heard a lot, I guess, about the burning platforms and the imperatives of both population growth and climate change, and the role of the Greater Sydney Commission is to lead the coordinated planning for Greater Sydney, and the GSC vision for a sustainable, productive, and liveable, Greater Sydney is set out in our draft district plans and regional plans, and because I've taken a place based approach to that planning, water is really central to the achievement of that vision of sustainability, productivity, and liveability.

It was obviously through the development of our plans and the vision set out by the Greater Sydney Commission that the role of urban water services has obviously underpinned the development of Sydney to date, but it really needs to be much broader benefits need to be achieved through the management of water and the planning of water in the future. I guess it's also important to make the point that, with the scale of population growth, and, sort of, as our cities inspire and grow and actually expand to new boundaries in the urban fringe, that the greater benefits that can be achieved from broader water management and a more integrated approach to water management and land use planning aren't really just about customer preferences. It's really almost an essential underpinning of those cities being able to the vision.

So I think sometimes maybe the term of customer preferences implies it's a bit of a whim, or a little bit of a "nice to have", whereas we really see that more sophisticated water management is actually essential to being able to have our cities functioning and productive in the future. Having said that, because - as the Greater Sydney Commissions role in setting the broader visions for land use planning and water, we can see that there is the potential for some misalignment between government setting objectives for planning and the delivery of many of the water objectives being achieved by the urban water sector, which is sort of separate and regulated in a somewhat different manner, and as Kaia pointed out, there is a very strong role for collaboration in the short-term, but in the longer term, yes, we agree that a statement of sort of national principles, or codification of those broader benefits that can be achieved from water would be a really useful thing.

I guess I would like to allude to the South Creek catchment as well, because that's a really important area for the Greater Sydney Commission, and the objectives we see there are both

about the liveability benefits and ensuring that the development of that parkland city means that more people can have access to the amenity that's created by water services and the restoration of natural creek systems, as well as the improvement in water quality. Once again, that encompasses a range of benefits, and I think it also brings to the fore that in the development of those greenfield areas it's so important to have water considered in - at the very start of that land use planning, otherwise the options for cost effective water cycle management may actually be ruled out, because if you're certain land use decisions it may mean that there is - you might be reverting back to more traditional pipes and - pumps and pipes method of water service provision, so that those extra benefits can't be gleaned, and I guess that's some of the difficulties in achieving some of the broader benefits when you're retrofitting existing pipes of the city as well.

So that's probably the core of my comments at the moment, especially given our time, but happy to take any questions that you may have.

COMMISSIONER MADDEN: All right, thank you. It was Linda?

MS PICKERING: Lyndall.

COMMISSIONER MADDEN: Lyndall, sorry. Yes.

MS PICKERING: Yes. Do you need me to provide my details?

COMMISSIONER MADDEN: Yes. We can do that after.

MS PICKERING: Okay.

COMMISSIONER MADDEN: I guess I've got a similar question, and given that the role of the Greater Sydney Commission is relatively new - that might be a good thing, that perspective of coming in.

MS PICKERING: Yes.

COMMISSIONER MADDEN: And you actually would see the diversity in different areas.

MS PICKERING: Yes.

COMMISSIONER MADDEN: Do you see different developments given different local government areas emphasis? I mean, do you see it heading differently? What actually kind of sets things on track, from your perspective, as opposed to where there might be gaps or nothing happening? I just wonder if that kind of helicopter view, whether you can kind of comment on, not the specific areas, but just what are the elements that you actually see that actually lead to that collaboration working.

MS PICKERING: In some areas Greater Sydney Commission - I mean obviously the collaboration can be set by setting those broader objectives, which has enabled a bunch of multiple players to work together for common objectives, which is really useful, although we still have the problem of, you know, disparate parts of the water industry to the land development industry working together, and in some areas the Greater Sydney Commission is trying new forms to improve collaboration, so the identification of collaboration areas, such as Randwick, or Liverpool, or Penrith, to actually bring more players together in a room and enable them to actually identify some of those solutions and some of the coordinated investment that might be needed leverage off existing infrastructure and achieve some of

those productivity and liveability and sustainability objectives. So I guess in that way the Commission has taken the role of a broker and a leader to improve collaboration.

COMMISSIONER MADDEN: Yes.

MS PICKERING: That is a fairly new process though, so we haven't, I guess, seen the results. I mean, it's encouraging to see everyone is keen to participate, but in terms of actually how that's going to influence investment and what the outcomes of that investment will be, that still fairly new, and the other process Kaia also mentioned is the idea of that Growth Infrastructure Compact, which is being trialled in some high growth areas at the moment. But once again, that's a fairly long-term sort of approach, looking at what the existing capacity is now and what the needs of future customers might be.

COMMISSIONER DOOLAN: Given your job, you take that helicopter view, and I'm from Melbourne so I don't know it as well, but who does pay for growth? I mean, is that something that the Greater Sydney Commission is actually grappling with? Or are you working with the existing suite of responsibilities and the existing flows of income?

MS PICKERING: At the moment we're working within the existing constraints, or the existing mechanisms that are available.

COMMISSIONER DOOLAN: Yes.

MS PICKERING: Though I did note your comments before about, you know, who the beneficiaries are and who should pay. Obviously its plan is, in some ways, of taking the proxy of future generations.

COMMISSIONER DOOLAN: Yes.

MS PICKERING: And so what we might set out as our vision may in some ways imply a different investment than sort of business as usual, but clearly we're taking into account that the beneficiaries of that will be the future population of Sydney. But I think, thinking about the funding is an important future consideration, and through mechanism such as the City Deal as well, like looking at, you know, how the infrastructure to underpin growth can actually be done better or differently, but that process is still in negotiation between the state's - the local councils and the federal government.

COMMISSIONER DOOLAN: All right. Thank you.

COMMISSIONER MADDEN: Thank you. Okay, thank you very much for your attendance today and contributions from those who appeared. I'd like to adjourn these proceedings, and the Commission will resume its public hearings next week.

MATTER ADJOURNED

[12.22 pm]



Australian Government
Productivity Commission

PRODUCTIVITY COMMISSION

NATIONAL WATER REFORM

DR J DOOLAN, Commissioner
MR J MADDEN, Associate Commissioner

TRANSCRIPT OF PROCEEDINGS

AT ADELAIDE
ON MONDAY, 23 OCTOBER AT 10.01 AM

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COMMISSIONER DOOLAN: I would just like to say good morning. Welcome to the public hearings for the Productivity Commission's National Water Reform Inquiry following the release of our draft report in September. My name is Jane Doolan and my fellow Commissioner is John Madden, and I'd like to begin by acknowledging the traditional custodians of the land on which we meet, the Kaurana people, and pay my respects to their elders, past and present.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission's work to get comments and to get feedback on our draft report. Following this hearing in Adelaide, we will also be holding another hearing tomorrow in Melbourne, and working then towards completing the final report to be handed to Government in December this year, and that will be having considered the evidence presented at our hearings and the submissions that we are currently receiving.

Anybody who has registered their interest in the inquiry will automatically be advised of the final report's release by Government which can be up to 25 parliamentary sitting days after completion which could take us through to June.

We do like to conduct all hearings in a reasonably informal manner, but I do remind participants that a full transcript is being taken, and for these reasons comments from the floor can't be accommodated but at the end of the proceedings I will provide an opportunity for any persons who wish to make a brief individual presentation.

Participants are not required to take an oath but should be truthful in their remarks and they are welcome to comment on the issues raised in our submissions as well, and the transcript will be made available to participants and will be available on the Commission's website.

So in case of an evacuation, downstairs, out the front and down the street, that's our current information, Rick. Okay?

So Darryl, after those proceedings, I'd like to welcome Darryl Day from International Centre of Excellence for Water and Resource Management. Thank you.

MR DAY: Thank you, Commissioner, I'd just like to perhaps start by acknowledging the huge amount of work that has gone into the draft report and I think it's particularly reflective of the way you've approached the review, and particularly making yourself available and encouraging the interaction that has taken place. So well done. I think we've all been a bit overwhelmed with the volume of work that you've covered but it does document an enormous amount that has happened over a long period, so congratulations.

I would like to perhaps focus on three areas and one is the Renewable National Water Initiative. The second one is the alignment with international obligations, and thirdly, the importance of research, knowledge and capacity development. ICE WaRM was established through administrating government initiative as an international set of excellence and is owned by four universities and another shareholder, and it works in the policy space internationally, very much supporting institutional capacity development, so we're in a quite niche area of interfacing with government policy and building confidence in order to implement that policy.

So there's a number of issues that we're perhaps able to draw from in the interaction of that work and reflecting back on the national water initiatives and the journey through that policy reform.

The discussion we always have in that context is the nature of a reform journey doesn't happen overnight, and in Australia's case we're nearly up to 25 years since the work started in putting together the 1994 agreement. Sadly, I was involved in some of the conversations around 1994 when the first taskforce of looking at the performance evaluation of the implementation of the 94 agreement, so it's been I suppose something I've had a number of different perspectives of the importance of long-term policy setting and the challenge of continuing the journey of implementing.

So water policy isn't an end point. It's a journey and it needs to be continually reviewed and adapted and I think that's what you've articulated very well in the need for continuing the commitment.

I suppose the reading of the draft document to me sort of highlights the importance of being able to articulate the criticality of continuing with that policy reform, and I suppose my greatest concern is, it might find its way on to a shelf and not be given the priority given where what policy sits on political agenda federally and in state jurisdictions at the moment, and I think the criticality is there, and our lessons from the two periods' reform of 94 and 2004 were that we were fortunate that we were well on the way to addressing a lot of the issues when the millennium drought occurred.

Had we not been as advanced as we were we wouldn't have had the success in managing the economic changes that needed to occur. So when we're thinking about the policy context it's what are going to be the challenges in five and ten years where the decisions we make today need to support the needs of us at that point of time be it the greater cities, be it the impact of climate change, be it community aspirations and expectations of water, and of course water is a complex issue that touches us all, and I think we are always at risk of understating the complexity of what we're dealing with.

In terms of the reform, I remember well the conversations around forming the 2004 National Water Initiative where it was seen that the utilities were included but a light touch in that 94 reform was about micro-economic reform in 2004 was very much to address primarily environment issues, but it did include utilities but at that time point in time it was very much understated I think in terms of where utilities were at in recognising the reform journey, and I think going forward the challenges of water for our urban environment says it is really a major centrepiece of, you'd probably call it National Water Initiative Mark II.

The criticality of good governance and regulation around that I think is important to come through in the recommendations. We have different approaches to economic regulation around the country and some argue that's good to encourage regulators to be innovative and indeed create some competition between regulators, but certainly there's a number of jurisdictions that have been left behind what is good economic regulation either from the way we view it in Australia or internationally.

I think one of the things that hasn't been spoken about enough is the siloed approach to regulation and the interdependencies between the different regulators' requirements for additional environment regulation in driving price. The requirements for public health regulation have an impact on technical solutions such as treatment plants. The technical regulation itself, quite a lot of innovation and technological changes happening in the urban space.

So with the four silos of regulators, economic, technical, environmental and public health, I think there needs to be a framework that each of those sits under and has linkages so we do understand the interconnection. So I don't believe Australia is ever going to get in the position of having a single economic regulator.

Indeed a single regulator will cross any of those areas, but a framework that provides consistency, and particularly as we see a number of emerging water services providers operating in different jurisdictions, for efficiency I think it's very, very important for that framework to be established, and there's a great deal of work to be done in bringing that together.

This is not just a conversation for Australia, but I perhaps point out the International Water Association produced a list and charter in 2014, and there's quite a lot of work continuing around the world, including at the Water Development Congress in Mexico next month around regulatory reform, and working through the take-up of the principles that have been developed.

In Europe there's just recently been a separation of the water economic regulators from the water and energy regulators to give a specific focus to water regulation, so there's quite a journey. Whilst Australia is well advanced in terms of a lot of regulatory thinking, particularly economic regulation which, as I said, it's highly variable, I think it's an area that is a critical focus in order to drive the construct and the focus and investment of water service providers or water utilities.

I think the other point I perhaps make is around the National Water Initiative Mark II ensuring that there is as much as achievable bipartisan support and of course cross-jurisdictional support from federal to states and territories, and I think the success of the past two reforms of 1994 and 2004 have been because of that bipartisan support which has been underpinned by incentives in different ways, 94 competition policy payments, but the National Water Initiative came with almost a billion dollars in investment about half or two thirds from the federal government and the rest investment from states and territories.

So investment in the likes of understanding Groundwater National Centre for Groundwater Research and Training, or Centre for Desalination, or the Centre for Recycling Water. All were really important in terms of being able to advance policy work, but also the collaboration that was invested in under rising national standards, raising national standards by the National Water Commission were critical. Without a commitment for funding of implementation I think the ability to take that forward is very limited and that's what we're seeing at the moment while there's still an inter-jurisdictional water reform committee in place without resources we are seeing just the roll-out of unfinished work for the National Water Initiative is really slow to very much fit with the resources available.

I would like to perhaps turn to the second issue of alignment with international obligations. Australia is a signatory to the United Nations Sustainable Development Goals and Prime Minister Malcolm Turnbull is on the high level panel for support to implement those goals, and Australia is doing some wonderful work in contributing globally, particularly around hydroinformatics water data around water efficiency and taking from the very good work that we've done, particularly through the Bureau of Meteorology.

It all goes through our water efficient labelling scheme and other initiatives, and being able to provide support to the global progress against the sustainable development goals, we quite often hear that they're not for us in Australia, the same development goals for developing countries. Indeed, that is not so. It is for developed and developing countries and we've seen, you know, just recently commitments from Denmark and other countries in terms of doing a stock-take of where they sit against sustainable development goals.

If we look at sustainable development goal six and all the inter-linking connections with other sustainable development goals, I'm not aware that there's an assessment in place that says we're doing okay or there's a body of work that we need to address. I just perhaps put it on the table in the context of, in order for alignment of our policy agenda for the next ten years with sustainable development goals focussed on outcomes in 2030 I think we need to have an understanding of what our gap is and our policy needs to align to close that gap, in addition to the great work we are doing internationally in supporting other countries, but it's interesting if you go to many other countries' sustainable development goals the first thing they talk about around water. Here in Australia it's not the case.

I would also like, in terms of international obligations, to raise the issue of human rights access to water, safe water supply and sanitation, and the United Nations adopted a resolution in 2010 and clarified in 2015 of the rights to access to water and sanitation. It's not about free water. It is about affordable water, it's about the proximity to water. It's about water quality. It's about the dignity with sanitation.

And again, it's not an issue that's got a lot of traction here, and I think particularly evident in overcoming indigenous disadvantage. There is an absence of understanding of where we are at the meeting those obligations either with remote indigenous communities or informal townships, or even without water service providers.

So the Productivity Commission produces a not insubstantial piece of work each year of the key indicators for overcoming indigenous disadvantage of which access to water and sanitation isn't mentioned, although they are elements of the enabling measures within the overcoming indigenous disadvantage framework in the Prime Minister's annual report.

I mean, if you Google "water" you come up with a few references to cultural values of water in the indigenous context, and there's a couple of references of work that the Defence Force has done in supporting development of some water supplies, but there really is no visibility around where we sit, and it's not since 2006 where the Commonwealth funded what was called the CHINS survey, the infrastructure needs survey, that it actually sought to answer the questions of access to safe drinking water and sanitation.

Now, I think Australia is doing very well and it's made a lot of progress, and particularly, you know, praise the work in the Northern Territory that I have some knowledge of what they're doing with larger communities, but it's a gap that we don't know, and it's only I understand not included because the data wasn't available to the Productivity Commission when they set up their key performance indicators, but I believe since those indicators have been established, the United Nations' resolution on access to water and sanitation would make it imperative for Australia to actually be understanding of where they sit against those.

So I think the investment that has been made by the National Health and Medical Research Council have developed tools for community water planning to ascribing for providing safe drinking water, and the National Water Commission itself funded a field guide and training for a number of jurisdictions in order for the uptake that the effectiveness of that and where we currently sit.

There is no visibility, and the concerns that we raised in the report about smaller townships in New South Wales and Queensland, I think that the situation is somewhat magnified when you start looking at indigenous communities with the right skills and perhaps access to the necessary support in providing safe drinking water and sanitation, and indeed it's underpinning in the health and wellbeing, particularly gastro issues.

But I'd also perhaps raise there the importance of the investment in understanding the challenges of different qualities of groundwater. We often think of microbial contamination of drinking water when we think of concerns about remote communities and drinking water, but indeed in Australia we do have challenges that we still have questions around chemical contamination and the long-term health effects of that.

So there's a piece of work that needs to continue, and indeed NHMRC has done some good work in the past, but there is a continuing knowledge being developed in that these issues are very complex issues, but they're very significant issues, particularly in a lot of countries about over-exploited groundwater systems and we see high levels of nitrate and arsenic that are causing, and fluoride that are causing health issues, and in Australia we have a similar cocktail which new science come into play requires to be considered in terms of our context.

Probably is a segue of looking at research, knowledge and capacity development. I think that we all, you know, strength of Australia's journey has been in the CRC program that for the last 25-plus years has invested very heavily in water CRCs. It's not the case now.

At one time around the time of the 94 reform we had five water-related CRCs which paralleled the fact there was a network of water CRCs what would collaborate on their cross-CRC research. The capacity that built in terms of Ph.D. student, and particularly bringing together government policy, industry researchers and capacity development I think stood Australia in a very good position. When you go around the country now and you know a lot of the people that are involved in full leadership around water having come out of that background, and we don't have that pipeline of people for the next generation coming through without that investment in research, particularly research in policy, as really critical.

Of course, we had Land & Water Australia. About the same time we had the National Water Commission invest in the semblance of excellence of groundwater desal and recycling I

mentioned. It is a real gap where we're at at the moment, and we're certainly seeing both a lot of talent and expertise either leave the sector or leave Australia in some cases, but also the concern of where the leadership will be in ten years' time without that pipeline coming through of people that understand it is a very, very complex business enable to inform policy with evidence, and it's really critical that we do identify the underpinning need of continuity and our research, but also our capacity development with institutions.

We're seeing some real gaps across the country in water authorities able to undertake basically, for example, we don't have a School of Water basic plan to go to. In fact, we don't have a lot of consistency around the areas of regulation I talked about earlier. We don't have a consistency through not having a capacity development program around good regulation, and an ability for regulators to draw from a pool of experience.

So I just highlight that in order to implement the policy we need the investments in the research and evidence, not only for the purposes of being better informed, but also building up leadership and capacity over the next ten or 20 years building those next generations so they're going to take it forwards.

I might leave my comments there. Thank you.

COMMISSIONER DOOLAN: I suppose there's quite a lot that you put on the table. One area I am quite interested in is, we have had a number of people talk about the importance of the sustainable development goals to us, and I suppose from our perspective in terms of writing a report that makes recommendations to governments, it appears to us that it's important that those reforms or recommendations have direct benefits to the argument about aligning with sustainable development goals. We've seen a secondary, a consideration in terms of, you know, why should the recommendations, what's the benefit to the country overall. Could you elaborate a little bit more on why you think the alignment vestige is, what benefits it offers to the nation, because it helps us build the arguments, if you like.

MR DAY: Sure. I suppose one way of looking at a journey is, we need also to learn from other, and our connection to the sustainable development goals, and the actions and principles engages us with people that are looking at the challenges of those issues in the broader context that we can learn from. I think one of the things we do really well is innovative, and indeed, we've got a story to tell the world about our journey, but one of the things that we do less well is learn from others, and I think the connection for me to the sustainable development goals is being able to have a dialogue around innovations and being able to align our policy settings or to be able to look at implementation without reinventing the wheel in some of those areas.

To me it provides a very comprehensive framework. It obviously went through a number of phases of negotiations to get agreement from members of the United Nations, but I think we've embedded within that, it is a very valuable framework for us to test our water policy against. I think that's valuable particularly the inter connectedness between sustainable development goal six and the other development goals when it comes to, for arguments, cities and the liveability of cities and the sustainability of cities.

So International Water Association has released a report on, or sorry, a guidance on principles for water sensitive cities of which Australia has had a big influence from the work that's been done out of Monash, the work that's been done out of the CRC for water sensitive cities. The contribution to those principles has been very strong, and I think somewhere that's been ahead of our thinking here in Australia, and I sort of find it, you know, unusual that we don't have as an adaptive policy framework to be able to take on board that broader thinking that's coming out of a lot of good research work that has been done here.

So if you take the issue of the urban environment settings, it is going beyond the customer, it's going to the community in terms of the value to the community, and one of our difficulties is always looking at the economics benefit, looking at the community benefit, looking at the ecological value of having a broader remit around water than what's in drinking water and sewerage, but how is a water utility able to put forward its investment in linkages with the urban development sector, linkages with stormwater and so forth which are really important for a utility to do because of the role they play in capacity that they've got, but it is often an unregulated area and they don't have the remit to invest in those so there's no one bridging that gap.

So I suppose I haven't answered your question directly, but I'm just trying to sort of draw analogies between going it alone without an eye on that framework versus what we can benefit from that framework, and also a focus of our future before being - having the insight of being engaged in that SDG [sustainable development goals] framework.

I would also perhaps would go - there is a value to Australia of actually being seen to be a leader in that space rather than not having it referenced, and I think what we're doing internationally with a high level panel of water is exemplary. The work that's going into that drawing from a lot of our experience, but also producing new tools and new resources is really a credit that's been recognised to Australia, but without that connection we've got a risk of going down a different path and I think a lesser path in terms of the community expectations.

COMMISSIONER DOOLAN: Just to follow up on that, obviously we're looking at the NWI in particular in terms of the assessment and also particularly recasting or refreshing the NWI because as we're a signatory I assume we already are integrated within the SDG framework and the like. The question really is, how would the, going forward, the NWI be different? So you mentioned words like reflect and things like that.

MR DAY: Yes.

COMMISSIONER MADDEN: What do you think of the objectives of the NWI as they currently stand? Is there some shortcoming there or, I mean, are you asking that the NWI should be recast including those goals or are you talking reporting frameworks, you know, going forward should take those into account? What do we actually mean by reflect and take into account?

MR DAY: I'd actually turn it back the other way and say, you know, the analysis needs to be done on where we're at compared to the SDGs. So if you look at our principles I think, you know, not too bad. They're pretty right. They're sort of 80, 90 per cent there. With a bit of

tweaking we might need to have a look at add a little bit more in or change a focus, but I'm not aware that we've actually done it at a national level.

There's a number of academic pieces that are emerging, but I'm not aware that we've actually done that gap analysis of where NWI currently sits with the sustainable development goals, and I think that would be important recommendation in terms of forming what is it we need to tweak. You know, if there's a gap, you know, and we believe it is not the right way for us to take a different path I think sort of without that analysis on the table it's hard to make that call.

COMMISSIONER MADDEN: Okay. I guess we're hearing about SDGs a few times and I'm yet to see that analysis that it's different than - a call for that analysis is a bit different to calling for action on, well, what does it mean for the NWI, where the objectives, where are the gaps, et cetera, which I guess is the nub of Jane's question. What actually - I can understand the point about the international, facing the international market, for want of a better word, but yes, it would be good if people who are discussing this actually at least give some pointers about what those gaps might be and what the difference would be in policies.

Now, you mention one in terms of remote communities and the like, so can I go on to there?

COMMISSIONER DOOLAN: Yes, absolutely.

COMMISSIONER MADDEN: Or do you want to make any comment?

MR DAY: I do. I think there's two issues. One is, where's the gap in our policy, its NWI, and where's the gap in our position against that policy. So we might have the policy but are we there yet, if there's alignment with NWIs, so I think there is that multi-dimension, you know, look at the position with sustainable development goals from both policy and achievement.

COMMISSIONER MADDEN: So I just have two areas that I'd like to talk about this implementation and what we can learn, particularly with your history going back so far. I think I only started in the water sector in 94 so I might have

COMMISSIONER DOOLAN: Just a baby.

COMMISSIONER MADDEN: Yes, exactly. So two areas. I'll start with economic regulation first and just think, and I guess some reflections on why some jurisdictions in economic regulation early adopters, long experience. We've seen others come along a lot later and some not move at all. So I'm just wondering, because there's always politics and all those kind of things but what do you think of some of the fundamental drivers of why there's been uptake in some policy areas than others? Is it demand driven? Is there enough work in terms of benefits. Is it an industry professional failing? I'm just wondering if you could reflect on that mixed uptake that you mentioned a number of times.

MR DAY: Well, I think the decisions have been very much at a state and territory level in their degree of comfort with having an independent economic regulator. So there's been movement to have an economic regulator that, or regulator that undertakes a number of

functions. A number of jurisdictions haven't given the full powers to determine tariffs and charges, so I think we've seen a bit of mixture around the country given on the political appetite, and you know, I think where it has truly been independent, it's moved about the issue of water pricing out of the political arena, not entirely, but I think certainly it's been very much a construct of the state and territory politics.

I don't think there's any logical reason for one over the other and certainly it's interesting around the world where I've been engaged in recently Malaysia for its priding itself on how far it's come on independent, economic regulation. For Manila and the Philippines, for example, they see that as they have a primary concessionary to impact for Manila, but they see that independent, economic regulator as being a critical tool and I think in Australia we've probably not had the moving platform, if you like, of, you know, where some jurisdictions haven't moved to independent, economic regulation, able to pull the levers at a political level or pricing in particular.

COMMISSIONER DOOLAN: Perhaps just one more. We'll have to move on.

COMMISSIONER MADDEN: Yes.

COMMISSIONER DOOLAN: You or me?

COMMISSIONER MADDEN: I've got a very short one which is about the remote communities and that reporting. I assume there is reporting into drinking water standards generally? It's not an area of my focus, so it'd be good for my edification anyway, just why - I know New South Wales has had a long-term program in their remote indigenous communities lifting - and it's a tailored program to lift standards involving local government, so I'm just wondering, other than we could ask for reporting through the NWI itself in that assessment process. Is there a - why is there a gap? Why is this not happening, given that I assume states report on - against their drinking water standards in general?

MR DAY: I'd perhaps just to, you know, give praise to what New South Wales has done. It's been, you know, a very well-considered approach and a long-term investment that's been made, and it's certainly made a lot of gains and they drew quite heavily from the work of the National Water Commission and the National Health and Medical Research Council in framing matters, whether it's, you know, looking at other solutions. There isn't reporting that's consistent and there are very significant gaps around both what is the water quality, but also the access to safe drinking water, and then sanitation has very little reporting about it at all outside of, you know, the main utilities.

Indeed, it was sort of reflecting back on the journey there was reporting that was put in place for the 94 guidelines that became - it's now picked up by the Bureau of Meteorology in terms of water services performance reporting on an annual basis. There was reporting that was then put in place for non-major urbans as it was called but that only went down to 10,000 people, and the reporting below that was seen as too problematic to gather the data.

So it's very - it's high credible around the country. Some do it by exception but it's, because it's not mandatory requirements, you know, it is where there's evidence (indistinct) failures, but in some cases throughout the Northern Territory I mentioned has, you know, robust

reporting around its major communities and a number of other jurisdictions do that quite well, but there's not consistency and there's big gaps.

COMMISSIONER DOOLAN: I think we probably should leave that now. Thank you very much, David. That's very helpful.

Our next presenter is Dan Croucher from the Water Industry Alliance.

MR CROUCHER: Thanks.

COMMISSIONER DOOLAN: Are you happy to - - -

MR CROUCHER: Happy to start, yes.

COMMISSIONER DOOLAN: Yes.

MR CROUCHER: So thanks for providing the Water Industry Alliance with the opportunity to provide a written submission and appear today. It's really helpful to put forward the views of a broad industry sector.

The Water Industry Alliance is a membership of around 120 industry bodies based in South Australia, although in some emerging interstate members, representing manufacturers, contractors, engineering services, tech companies, water utilities, professional services and research organisations, so a fairly broad spectrum of business across the water industry.

Having been around since 1998, the Water Industry Alliance has seen a number of changes in the landscape of South Australian and Australian water industry - water reform regulation policy and design. The submission that we've put to the draft report is really based around three key principles of the key themes. Support for a refreshed and rejuvenated national water initiative function with a peak body that's able to drive national leadership and I'll talk to these a little bit more in a second.

The need for investment in water industry growth beyond the reform and regulatory sector but also into the innovation and the growing knowledge base of – I guess, how we deliver research, development, commercialisation, imbed that in our industries for both export and learning from the ability to partner up and collaborate at the industry level.

And really the third thing is, around some touchpoints on what the industry's telling us around the water reform journey over a long period of time and the fatigue, particularly in Murray Darling Basin space where reform is never ending and it is heightened by the recent Murray Darling Basin plan impact whereby the fatigue and continual tiredness and not seeing enough time in the view to try and imbed the water reforms that are taking place into actual, I guess, bear the fruits.

So I might talk to that one first. So having gone through a great period of time, late 90s in South Australia, particularly with water restriction, water allocation planning processes, and before that at a national level through particularly Murray Darling Basin agreement negotiations, water users in particular have been hit with a number of different changes, both

to, not only the way they operate business, but the way they actually deliver irrigation outcomes to drive the economic development in the regions.

In short, the Basin plan and I know it's out of scope for the Productivity Commission because there is a parallel submission going along, but it's worth noting that the effect of subsequent and parallel water reform, both in policy practice strategy and investments in terms of behavioural change, regional change, have an effect on people's intellectual and business capacity to take change on board.

So whilst no industry is telling us that there is a need to keep developing, keep striving for best practice and better performance, how it's rolled out and the expectations placed upon industry need to be cognisant of all the other effects on industry so that the changes can be imbedded in a highly successful way. So I will probably leave that one there.

The importance of the National Water Initiative has really played a key role in the industry understanding the game plan the governments have going forward and what the strategic positioning is, and the Water Industry Alliance feels that having the refreshed and almost a recommitment to the existing principles, teasing out the ones that are no longer relevant in the contemporary space, but designing new ones that can deliver us an ongoing process of continuous improvement, not only how we manage water but how we allocate, how we regulate and how we keep up with the technology changes that provide the tools to do that, and I draw on the example of the water market, again particularly in the Murray Darling Basin, we've got a very mature water market, but those water market principles being extended cross other zones whereby behavioural change around water market and water trade is changing from it being "Just in case I need an allocation or a trade", but just in time for me to have either – you know, a higher temperature or an extended period of frost.

And really it's around focus on water quality, water quantity, water reliability and water security in the settings of how they're at the framework of a new and refreshed National Water Initiative of some design, could come together.

The need for national leadership, I think, is important for the industry to harness the fact that if we understand where we are – the report that you guys have put together points out some significant challenges in climate change, population growth. Even a greater reliance on water as a commodity for us to grow and develop economic development against, I'm particularly thinking around agriculture and irrigated water culture and the drive towards exporting these products overseas particularly, is that as we go into that more constrained space against the population growth, the need for having national specific issue conversations outside of our, sort of, more diluted (indistinct) environment might be very beneficial and the reason for that is to actually provide a level of rigour and accountability to the reforms space. So there's a single point of authority that can touch base to make sure that some of the past practices and some of the past gaps in the National Water Initiative don't get replicated in a future initiative.

The broader kinder feeling of industry sector growth, I guess a greater acknowledgement and acceptance of the water industry is beyond government, and I think what the National Water Initiative did really well was support our regulatory policy change framework, but particularly with the absence of the National Water Commission as a peak oversight body, that the swelling of in-government in State and Territory government departments, at least, in

terms of dealing with the reform and implementation, it's really become a policy focused domain, rather than an implementation focused domain and so therefore it's around acknowledging that the water sector and the water industry that contribute to the success and the solution of continuous improvement, is more than just government. It is about the sector. It's about not only the rule makers. It's around rule implementers. It's around the investors and the industry bodies that actually bring those changes to fruition.

There are – and one thing that the draft report picks up on, I think in the first line of the overview chapter in the draft report, states that Australia's water sector is viewed internationally as a world leader in water management, and this is really the final point, I guess, in terms of what the Water Industry Alliance is experiencing at the moment, is that through various iterations of reform policy, implementation policy and programs through government initiatives particularly, the water industry both whether you think about the research and development side of it, the commercialisation or even the advisory, engineering and implementation construction type sectors of the water industry, have had a fairly easy time in terms of large sums of government money invested into the industry, invested into the sector.

That is clearly not something that is sustainable for government to continue to do, but what it can't leave behind is a vacuum. When a shrinking capability and a shrinking industry base to be able to deal with the reforms on the ground. So what we've noticed is that the public sector in the water space has internalised a lot of its work. It's internalised a lot of its science and monitoring and knowledge work. It's internalised a lot of its planning and even to the extent of developing export agendas and export strategies whereby in our view that should be the domain of the industry to work with government on how to do that but not grow government in that space.

It's almost a competing interest where you might have industry to industry networks and collaborations across the country and internationally that can deliver water solutions for many different issues, but the ability of actually us having that capability within the county is shrinking as we have mature firms and companies that are downsizing or heading into retirement years and little succession planning because there's a merger or acquisition kind of mentality.

So the challenge for us going forward as we see it, is that any new funding models or any new principles and policy drivers that come out of a refreshed NWI and build on the good work that's been done today, need to extend an investment portfolio that drives innovation, new technology, but also collaboration and partnership across the sector, both within particular jurisdictions within Australia, but also enable the international business to grow.

I guess what we don't want it to be and one of the sort of almost – I don't know whether it's an hidden principle or unsaid principle or something that you just inferred out of it, is that Australia could be a net exporter of water based knowledge, whether it's manufacturing, technology, policy planning regulations, science research, but we are in real danger of becoming the importer.

COMMISSIONER MADDEN: I guess the question that comes to me in this space and think about the five CRCs that were mentioned earlier about then what's the long-term

sustainable structure to support the water industry and the obvious next question from an economist is who should pay? So I can see that CRCs play a valuable role, but that's up and down with the issue of the day, so have you any comments on that level of ongoing funding, what the key drivers are, and more importantly how do you get alliances across the industry that are long term rather than project based which is CRC really is, and leading from what, and who should pay, because there is a revenue base in agriculture in the other States. There are options with RDCs and the like. I'm just wondering if there's any kind of thought or document that actually outlines some of these kind of strategic issues for the water industry.

MR CROUCHER: So I guess going to the first part of it is – so if we consider water as an enabler of many different industries, economic activities, then obviously a market failure on water space, in water knowledge, management is unacceptable for Australia to be able to deal with it. The risks around it are, you know, regional communities, the (indistinct) citizens, so thinking about where the next market failure comes from is obviously a government – is something the government and industry could partner well together to think about what that might look like.

The second part of that is that any initiative needs to develop more public value it provides in the context of more than the numbers and more than the costs benefits of providing the service. So in terms of how the water sector is viewed as a public value as an asset in and of itself but also how we utilise all the spin off and flow ons from that, is really important in sustaining capability and it's about sustaining capability, not just for ourselves, in States and territories but we have rights challenges to face, and climate change and access to water in regional communities has been touched on a lot, as has constrained and impaired water resources and by constrained and impaired, that also means ones of low quality that need – that need treatment and then potentially using waste water as sustainable practices now.

It's around harnessing the knowledge of industry and government together and research corporations together, and that's really where – there are models around the world where large collaborations, large associations and alliances in many different disciplines in the water sector, play a role without government investment over time, and so I guess the key part of it is, is around what's the start-up look like? If you're funding small start-up initiatives through industry to grow knowledge, grow capability, grow succession planning, that's where the greater public value is in my view, and that's where there's an emerging industry that if we don't develop could develop a market failing when we have that net input of knowledge which would be sad for us to lose that global positioning that we've got, just from a purely industry perspective.

In terms of the question of who pays, if there's public value to be determined and there's collaboration and partnerships to be developed, then it's both industry, private sector investment as well as government investment, the idea of how that can keep escalating and keep growing and become self-sustainable without government investment ongoing, and I think that's where we've come to this view, as the industry that over probably 25 years, large government programs have sustained the industry and that's not sustainable going forward, but what is sustainable is a short term injection of both leadership, structured planning policy and principles around where we want to get to and working out the defined roles and responsibilities about how industry can play a better role than they have previously.

COMMISSIONER DOOLAN: Are there examples where that has worked either here or overseas that you can point to for us?

MR CROUCHER: So there's, in terms of sort of a broader association, there's an association in Milwaukee that has a large range of different water industry members and they pay a role, not only in providing growth for industry players, but also supporting university and school education facilities to have more appreciation of water and how to manage it, but also some community service style obligations that provide them the ability to offer services at lower charge and you know, as a commercial entity most of them have lost leaders at the start. But they develop long-term partnerships where the investment train goes both ways.

There are a number of others, especially in the US. There's also any trade missions that people go on, the Dutch and the Danish always seem to be there that people will notice, so there are examples where it works. They take a lot of time, a lot of effort and sometimes a lot of upfront investment to get going, but it's a sustainable model that leads to fill the gap where government can play a broader oversight role and industry can play the solver, a solutions focused role that enables a two-way pollination, facilitation of exchange so that the initiation comes to the fore and you use it effectively.

COMMISSIONER DOOLAN: I suppose I was just interested in your contrast, if you like, of it is important to your members that there is a NWI and that governments do recommit to it, seem to recommit to it, but that also there is reform fatigue. So how do we actually, sort of, tread the balance to actually get governments to acknowledge there is a need and to create a dynamic for a third wave of reform whilst balancing the question of an instability, time to adapt? So how do we inspire governments and yet not over point it?

MR CROUCHER: Yes. Amongst the key question of, you know, I guess public policy reform in how it rolls out and it's really around the implementation, so the first thing is, from an industry perspective is what's in it for industry and how can industry inform what is done, and I'm not just talking around manufacturers and (indistinct) makers but the people that have businesses that have long-standing capability and intelligence build-up over many years of involvement in water, but also how we imbed the research and commercialise the – at least make research available so that people can make better business decisions on the basis of it.

And so, it's not one thing or another. It's probably around design prioritisation. It's acknowledging that there's a broader church of water industry that goes beyond government and beyond regulation and acknowledging that some regulations as well are inhibiting to growth and which ones then, through that reform process, can you actually remove the – you know, we like the term remove red tape, is how do you remove the red tape so that the barriers are reduced and the opportunities are maximised?

I don't see it as a silver bullet, but I do see it as a conversation that needs to evolve around specific targets, around specific fundamentals of prioritisation and around inclusion.

COMMISSIONER MADDEN: The National Water Commission has been mentioned a few times and again, just trying to get this idea of what the roles of accountabilities are. Did they play a role really in this space? Like is there something that we've lost that was working or

are we looking at something entirely new given going forward into the future that we haven't done before?

MR CROUCHER: Yes, I think - - -

COMMISSIONER MADDEN: Again, not to say we must do that. But just what are the elements, what are you really trying to articulate in terms of going forward?

MR CROUCHER: So the National Water Commission as a body or as an entity as a function gave a perception, whether it was real or inferred, that there was senior high-level leadership that had specific yield of decision-makers at the highest level and captured the attention and the consideration of those sitting around the COAG table but with a specific focus on water and the water issues that faced Australia.

Whether there's a Commission like a council, like a board like function, but having those brought back to a single point of focus, would provide some clarity.

COMMISSIONER MADDEN: And just on that, we're talking about the R&D space here in particular as opposed to particular policies. So was there papers put out in terms of that cross-State? I assume given your focus on South Australia, what's happening in other States and kind of, how you elevate this to a national level, that's, I guess, what we're talking about, whereas the NWI's very much what is each State doing at least in assessment processes? I mean, are you talking about getting that cross State association? I'm just again, trying to actually – where do we want to be in five, ten years?

MR CROUCHER: In terms of the conversations around the National Water Peak Body Association representation, that conversation will evolve over time with a number of different associations that have either water as a very core focus or a very secondary focus of what they do.

In terms of the growth or the potential of an alliance and association type body, to take on a (indistinct words) given the complexity of water space, I don't see it as being one overarching association representative body from that perspective. However, what there clearly is, is that on a project-by-project, -program-by-program, even policy and strategy roll-out of design perspective, is that cross-jurisdictional collaboration and co-operation is going to be very important.

You know, coincidentally I just spent some time in Western Australia last week and I don't have an in-depth view or understanding of WA's water industry at all, but they're certainly going through some transitions out of mining water reuse, and there was some learnings from Queensland and New South Wales that could particularly brought into bear to assist, what there's got to be is a behaviour change and culture change to be able to work across at government level. I think industry does it pretty well where there's opportunity to do it in tendering and contracting, but at the government's government level there's certainly very sovereign boundary that exists and that actually does have an impact of impairing some industries to work together because the opportunities are not there.

COMMISSIONER DOOLAN: (Indistinct words).

MR CROUCHER: No, I think - it is just that the industry of water sector in Australia has, in our view, an opportunity to grow. There's demand in an international space for services, manufacturing, technology, a whole different gamut of industries in this space. Demand does not necessarily equal opportunity and the one thing we can't do is go and sell a shop with no stock in it.

COMMISSIONER DOOLAN: Sure. All right, thank you. Thank you, Dan.

MR CROUCHER: Thank you.

COMMISSIONER DOOLAN: So we will have a quick 15 minute break and then we will reconvene with the Goyder Institute. Thank you. So back at 11.30.

ADJOURNED [11.13 am]

RESUMED [11.27 am]

COMMISSIONER DOOLAN: I would like to welcome the Goyder Institute and Kane Aldridge.

DR ALDRIDGE: Thank you, Commissioners, and thanks for the opportunity to provide import to this important process. Firstly, I'd just like to open with some general comments and I will get into some more specifics, but I would just firstly like to welcome the Productivity Commission's enormous efforts in undertaking the inquiry into the progress towards achieving the objectives of the National Water Initiative.

I view this inquiry as a really component of the broad adaptive management of the water sector and the management of our water resources and national water reform. Just for background, the Goyder Institute for Water Research is a partnership between the South Australian government, CSIRO Flinders University, University of Adelaide, University of South Australia and the International Centre of Excellence in Water Resource Management.

In many ways the Goyder Institute for Water Research has spawned out of the water reform and the national water reform agenda. In this time the institute has established itself as a leading independent expert science advisor undertaking critical research for priority State and National water policy and so in doing so, we've been an important component of the National water reform agenda.

Into the details of the report itself, we view this as a really comprehensive and balanced assessment of progress in achieving the objectives of the National Water Initiative and we support the general conclusions of the draft report that good progress has been made but there's further work required.

The importance of water to our society, the economy, the environment and our society more generally cannot be underestimated and we have enormous challenges ahead including increased population growth, not just of Australia, but worldwide, but also the enormous challenge of dealing with climate change and more variable climate.

These challenges are substantial and will require ongoing water reform, and given this, I think it would be appropriate for the report to assess how well current management practices are placed to deal with these future challenges. The draft report does note that water planning is required to regularly assess the impacts of climate change, but it's not clear at this point what is best practice in dealing with climate change and how we address to deal with that.

Given the importance of water to Australia that I have outlined and the significant future challenges, we support the recommendations outlined in the draft report that the National Water Initiative be maintained and enhanced. This provides Australia with the opportunity, not only to deal with our own water resources but also to train, educate and participate internationally in water reform.

Because of the focus of the Goyder Institute, my specific comments relate to the knowledge and capability building component of the draft report and my comments are mostly practical and relatively simple comments because I think broadly the importance of knowledge and capability has been captured. So we do welcome the general sentiment of the draft report regarding the importance of knowledge and capability building towards water reform and consistent with this, we support the recommendations of the draft report that are a recommendation 8.1A and 8.1B. My specific comments relate to really strengthening some of those comments and bringing out some of the importance of water research.

So my first recommendation relates to Australia needing to provide greater investment into water research. I think the draft report appropriately acknowledges the recent decreases investment into water research and the importance of research to water reform. In recent years there has been a significant reduction in water related research with the closure of a number of key research initiatives, and given the importance of water reform, we feel it is appropriate to include a recommendation along these lines.

I should say, some of these recommendations could be brought together but I've separated them just for clarity. The second one is that Australia needs greater investment into the transfer and application of water research into policy management and innovation. Recently the Office of Innovation of Science Australia released a review of the Australian innovation sector. It concluded that Australia does well in knowledge creation but performs poorly in knowledge transfer and knowledge application.

Ultimately this means the industry impact of research is far less than its potential. My personal observations is that this can be attributed to neither managers or scientists or policy makers having the capacity to undertake these roles. While the Goyder Institute and others have made significance advances in this area, there's still further work to do and there are many good examples around the world of such knowledge, transfer and applications.

For example, in the United Kingdom, the UK Government of Office for Science fulfil this role and the EU Joint Research Centre also fulfil this role, largely through horizon scanning and determining future challenges, but also through the development of production of synthesis and better analyses techniques and they are often independent of government.

The next point is that Australia needs greater investment into research that's primarily focused on informing water policy and also industry development. There's likely to be a number of

different models that have been established throughout Australia but the Goyner Institute for Water Research is one of these examples where the research is very much focused on informing critical areas of water policy. The sciences remained independent of government, but the information is made readily available to get its informing policy.

My next point relates to some discussions within the draft report, could include information on the assessment of mechanisms that have been successfully implemented and particularly this relates to 8.1B which is develop mechanisms through the jurisdictions that can work cooperatively to share knowledge and build overall capacity.

Again, I feel the Goyder Institute, and I am sure there are many throughout Australia have been important in fostering and sharing information between researchers and policy makers and researchers and other researchers that otherwise would not have occurred.

Another South Australian example is the establishment of joint positions between State government departments and research organisations and I am sure a similar could occur with industry. These positions have been viewed as being extremely successful in facilitating the scoping of research projects and also importantly, the uptake of research outputs that meet government needs, and I will leave it there.

COMMISSIONER DOOLAN: I suppose a key question is we do see as value that research has provided to the water policy journey that we've been on and that definitely there was a peak of research over the drought, it's dropped, it's dropped to levels that were lower than perhaps that we saw 10, 15 years ago. The real question is how much and who pays and how do we get to that in an efficient way?

DR ALDRIDGE: It is a very good question and I guess our view is that it's a shared responsibility of government and also industry. I think also we need to think about the water industry perhaps more broadly in that almost all industries are water dependent, so there may not be water utilities, but I think there's certainly – I think we could explore models where there's joint funding of government and industry into water research, and part of that is probably being about more efficient in how we coordinate and allocate research and investigation type money. I think there is a substantial amount of money that is spent on small research projects, but if we could bring those research projects together and build bigger research projects or programs, then we could mostly likely have research that has greater impact than a series of small projects, if that makes sense.

COMMISSIONER DOOLAN: The CRCs, people have spoken about the CRCs today in submissions as well as, I suppose, being the combination of researchers and industries that created the relationships being longer term, providing future capability. Is that a model that we would want to go back to or is there perhaps a more successful – obviously there were success with those – but something that would be more successful that you're aware of or would want to push?

DR ALDRIDGE: I mean, the CRCs that I've been involved with have been extremely successful. I think there's something - I think there's a general desire to push CRCs towards industry funded models, which is okay for those components of research that have a direct uptake by industry. In other circumstances there's research which doesn't necessarily directly

inform industry but more maybe public good type research. And so we need to be careful that we're not pushing all of that public good type research into industry funding when there's going to be no potential for the industry to fund that type of research. But I think the CRCs, from my experience, have been extremely successful and I think that's a suitable model.

COMMISSIONER MADDEN: I guess part of the discussion we had was refreshing the NWI and then the capability and knowledge being generated from new areas. Not things that we've focused on for the last ten years. So what are the new challenges? So we have urban environmental water use and climate planning, just the three examples?

DR ALDRIDGE: Yes.

COMMISSIONER MADDEN: Where is the assessment, or do you have knowledge of any process that actually assesses where, not just jobs, but activity and focus is at the moment; and given those three areas do you think the industry, and I mean by that the water research industry, is actually responsive enough and that - kind of a head of a kerbing place in future challenges? I'm just wondering, I know it's a broad sweep, but where is most of the action and activity and focus at the moment, and is it well placed then to meet those future challenges that we've identified, and are there any others that maybe we should identify in this area?

DR ALDRIDGE: I'll have a start and then maybe come back to me in case I've missed bits, but - - -

COMMISSIONER MADDEN: Unfortunately we don't have a glass of red wine. It's a kind of a bit of that discussion. However, I think it is important that - - -

DR ALDRIDGE: Yeah. Yep.

COMMISSIONER MADDEN: How do you transition to meet new policies?

DR ALDRIDGE: Yeah. So as the draft report outlines and I attempted to outline earlier, I think some of the big challenges where research needs to play an important role is around population growth and climate change. I think we haven't yet connected perhaps some of the climate change work in more detail - not more detail but specific water research. We haven't quite made that link in lots of areas. I think there - from my discussions with the partners of the Goyder Institute one of the big areas of need relates to the intensification of agricultural practices. That will come from the need to keep economies going through agricultural development within Australia, but also to feed the world essentially. And that, or a large part, can only occur through intensification of agriculture, which presents some challenges but also opportunity in terms of reusing water over and over again until we've scraped every possible element out of that, and so there's no discharge of waste also.

I think one of the other areas where we can work more is in multidisciplinary research and I think there's been an ongoing shift towards multidisciplinary work, but I think there's still further opportunities to make the most of in that area. The climate change seems to be the big area.

COMMISSIONER DOOLAN: So you did mention climate change early on and talked about what is best practice with climate change. I suppose I'd like to throw that question back at you. What have you seen amongst the research or your institute seen as what you consider to be best practice? Adaptation or - that's appropriate for national policy?

DR ALDRIDGE: I guess what I - my observation is that climate change in water planning has been dealt through by I guess considering it on five year cycles appropriate with the water planning cycle, but not taking a longer term view on what's the - what are some potential future scenarios that we might face within certain areas and what's the risk associated with them. And then - and then back from that, mapping out a way forward so that the water sector more broadly can deal with those challenges. And so we're making smart decisions now, investing into areas that will be able to adapt to climate change. That's my general observation, is that we tend to still take fairly short views of climate change because it's limited to that five year cycle.

COMMISSIONER DOOLAN: I've got one further question, if that's okay. As a research organisation, coming up with the sort of nationally agreed research priorities has always been problematic. And one attempt was the national platform for water knowledge priorities, I think - it was called something like that. It took I think at least two years to develop, possibly longer, and has just recently been suspended, so not seen to be terribly effective. So once again from a research perspective, what would you consider to be appropriate for a national framework that would work? Have we seen anything past or elsewhere that actually would be effective?

DR ALDRIDGE: Yeah, it's another good question. That's something we've also noticed, where we've seen governments also develop national - water research priorities or strategies or plans and almost by the time they're written things are out of date and people have moved on to the next priority. So, I don't - - -

COMMISSIONER DOOLAN: It's more thinking about the - should we be successful in getting a new NWI, the architecture that you would try to set up underneath it.

DR ALDRIDGE: Yeah. I think my feel is that to certainly consult broadly with government and industry and understand what - and through some probably horizon scanning type initiatives, understanding what the future - real future challenges are, and only to go down to a certain amount of detail in relating it to themes rather than specific research questions. And then through whatever process, to look for, through a competitive bid process, look for applications within those themes and see what the research and industry sectors could come up with, like really from the more specific questions.

COMMISSIONER MADDEN: Just one last question for me, which is around knowledge transfer. Just, have you any examples of where you see opportunities missed, and why? I know when I worked at CSRIO we talked about knowledge transfer ad nauseam. Some worked, some didn't, it was hard to know why, but I just wonder what we do. Missed opportunities. Do you have any examples over the last five years where you actually see missed opportunities and what should we do differently?

DR ALDRIDGE: I would probably prefer not to single out any specifics but - - -

COMMISSIONER MADDEN: I mean even part of a sector.

DR ALDRIDGE: Yeah, I mean just generally I think there are missed opportunities all the time because researchers have very strict performance measures and that is really focused on undertaking the research. And policy makers and managers are generally very focused on that role, and so there's no one filling - or very few groups or organisations within that area in the middle that are able to take multiple bits of research and pull that together into a format whereby policy makers can pick it up and form a policy or a decision. And so there is a large amount of research that is undertaken that doesn't make its way to policy. I'll just leave it at that.

COMMISSIONER MADDEN: Okay.

COMMISSIONER DOOLAN: Well, I think we're done. So any further remarks Kane?

DR ALDRIDGE: No, that's it, thanks for your time.

COMMISSIONER DOOLAN: Thank you very much. Okay. So we've got one more presenter scheduled but she's not here, so we'll just find out whether she's actually coming or not.

Okay, so thank you Katherine for making it up the stairs. We'd like to welcome Katherine - oh, sorry, Karen.

MS ROUSE: Karen, yes.

COMMISSIONER DOOLAN: Karen Rouse from Water Research Australia.

MS ROUSE: Okay, well thank you for this opportunity to appear before the Productivity Commission's hearing today. Water RA, or Water Research Australia hasn't previously made a submission during this process of the review of the NWI progress. So today what I'd like to do is to run through our draft submission that we're planning to make, with a view to identifying points we might elaborate as we finalise it. But I'd like to begin by telling you a bit about Water Research Australia to establish our credentials to speak on some of these matters. So I'll just draw breath and have a drink.

Okay, so Water Research Australia is an industry-funded not for profit member based company, that over its 22 year history has been shaped and reshaped by developments and reform initiatives within the water sector. We began life as a CRC for water quality and treatment, which was formed in 1995 under the Commonwealth Government's Cooperative Research Centre's program. As a CRC we had two seven year funding terms up until June 2008, and then transitioned into a not for profit company limited by guarantee, known at the time as Water Quality Research Australia, which had a similar scope but not scale of operations to the preceding CRC.

Two years ago a name change to Water Research Australia signified the expansion of our research scope to encompass all areas of water sector need. A change that was necessitated

partly by the rapid depletion of urban water research capability that occurred around this time, particularly with the cessation of centres of excellence and desalination and water recycling. As well as CSIRO's decision to disband its urban water research theme. It's worth noting that of the 89 CRCs that have existed in the past, only 14 have successfully transitioned into ongoing entities, with Water RA being one of this group. Water RA's genesis and ongoing viability is considered a testament to the water sector's recognition that a sustained research and broader capability building effort is fundamental to the sector's success. And that's a fundamental premise that I'll explore further.

While Water RA is headquartered in Adelaide, our 59 member organisations are based all over Australia and comprise roughly half industry organisations such as water utilities, government departments, regulators and consultants. The other half being research organisations, mainly universities. The particular combination of our members is an essential part of our value proposition as it facilitates a path to impact the new knowledge we generate. We work closely with the Water Services Association of Australia to understand the urban water industry's research priorities and wherever possible we endeavour to leverage Australian investment in research through our international collaborations. And that's who we are.

So the general comments we have on the key points that were made. We acknowledge those points and generally support them. We feel that the points highlight that the focus of the NWI to date has been on improved management for water resources from a quantity perspective, with evidence of success particularly in the rural environmental spheres, but they do recognise the need for further work by government. In both determining the scope of this further work and ensuring its successful delivery Water RA rated the importance of giving early consideration to the types of evidence and new knowledge required and the capability needed for its generation. This is because adequate capability and capacity cannot be assumed to be readily available within the sector, given a decline in focus and funding of water research over recent years. Furthermore, ignoring this aspect could increase the risk of re-emergence of bad policy habits, such as the lack of an underpinning evidence base.

Several of the reform priorities relating specifically to national policy settings Water RA draws attention to the fact that success will require greater understanding and consideration of water quality, community preference and public health aspects of water management and their integration with frameworks designed primarily for water allocation or use of water from a particular source, which I'll go into a bit further. The main body of our comments focus on Element 7 of the National Water Initiative, knowledge and capacity building, not surprisingly. The NWI along with subsequent COAG work programs and water noted and built on significant national investments and knowledge and capacity building in water, including through the CRC programs, CSIRO, Water for a Healthy Country Flagship and Land and Water Australia, estate agencies, local government and higher education institutions. It rightly recognised that scientific, technical and social aspects of water management are multidisciplinary and extend beyond the capacity of any single research institution. Working closely with the Water Services Association of Australia, Water RA through its precursors, the CRC and WQRA, contributed strongly to the delivery of science to underpin the guideline development policy changes and other reforms that occurred during this period. Other multidisciplinary research groups active at that time also contributed, such

as the centres of excellence and desalination recycling and CSIRO's urban water theme, however many of these no longer exist.

So while Water RA strongly agrees with the Commission's draft finding that ongoing research and capacity building will be central to Australia's ability to deliver sustainable management of water in the face of challenges from climate change, population growth and increasing community expectations, we raise concerns that the sector's capability and capacity will require strengthening to achieve this. In particular we urge that any new water agreement include mechanisms to ensure that the same suspected inefficiencies and infrastructure response to the millennium drought do not also characterise the knowledge sector. Ideally this would mean that funding is assured for both the sustained effort required to solve the increasingly complex challenges facing the water sector and maintenance of the capability that underpins this effort.

It is generally agreed that research investment can only be efficient and effective if value is realised. Sustained research and industry collaborations improve the likelihood of achieving business impacts but impact remains difficult to achieve and often harder to measure. While good practice is for knowledge transfer from research to be embedded during product delivery, there are integrated aspects of many programs that can only be transferred at their end. This can be problematic when the research entity is time-bound and can lead to diminished value realisation, whereas enduring collaborations have a greater chance of success. This is another supporting factor for a national approach that fosters long-lived or enduring collaborative ventures between research providers and water sector adopters, be they government departments, utilities or regulators. Such ventures have the additional benefit of being able to deliver to all horizons of research, including Horizon 3 where sustained research around a complex subject or more fundamental transformational research is sought. Such research takes longer to conceive and is often delivered as a multi-phase research program over many years.

Another factor contributing to the efficiency with which research and capability building will be delivered comprises the availability of national strategies and frameworks to ensure the research undertaken is targeted, relevant, synergistic and timely. The NWI subsequent COAG action list required identification of the key knowledge and capacity building priorities necessary to support national water reform and the actions required to more effectively coordinate the national water knowledge effort. Significant progress has subsequently been made in this regard through the 2015 collaborative development of the national urban water research strategy under the leadership of WSAA. Water RA has been an active participant in this process and the subsequently established focus areas to underpin the priority research themes set out in the WSAA-led strategy. While this strategy may not fully encompass the COAG objective of establishing a national water knowledge and research plan, it does establish priority research themes for the urban water sector and Water RA is working with other organisations in the sector to ensure a coordinated research effort and optimise return to investment.

For regional, rural and remote parts of Australia, however, there is currently no tailored national research strategy, despite the significant contribution it could make to the performance of regional water utilities and economies of scale could be realised. This year

Water RA has started working collaboratively with its members and stakeholders to address this gap but will be challenged by prioritisation and implementation without the strategic guidance or support that a national water agency would provide. Additionally, without an effective water research strategy for regional and remote areas, Australia may struggle to meet its international obligations relating to the sustained water development goals, given water's pivotal role in enabling health and wellbeing for regional and remote communities, which is Goal No.6 in particular.

I would now like to reflect on Elements 4 and 6 of the National Water Initiative and illustrating some of those earlier points. Making urban water management more robust and responsive is presented as one of three key priorities for a future national water reform agenda. This builds particularly on Element 4 of the NWI which relates to integrated management of water for environmental and other public outcomes, and Element 6 which addresses urban water reform. Water RA supports renewed focus and long-term commitment to these areas, as we consider a lack of sustained investment and capability building, knowledge and skills, insufficient national leadership and fragmented policy frameworks and guidelines have all contributed to slow progress. For example, the ability to be able to consider all options for water supply augmentation requires both adequate knowledge, scientific, technical, social, environmental and economic, and the corresponding social licence. While significant progress was made through the centres of excellence and desalination water recycling, this investment was drought-driven and curtailed once infrastructure solutions to the immediate crisis had been implemented.

Today Water RA is working with its members to identify knowledge gaps relating to alternative water sources that were either not able to be addressed during the life of these time-limited organisations, or there isn't subsequently as a result of change drivers for supply diversification. This latter point provides a good illustration of the pitfalls of short-term crisis-driven investment, versus a considered and planned approach with a long term perspective. To date, both in Australia and the eastern states of US, the need to consider all supply options, especially the palatable reuse of wastewater, is significantly driven by population growth and the high costs associated with discharging treated wastewater into waterways. While this change in drivers may not alter the scope of technical research required, it does necessitate the adaptation of existing or development of new approaches to achieving social licence where supply pressures are not as visible or shared by customers and communities as they are in times of drought.

With the regard of allocation of environment water or integrated palatable reuse as part of the water resource mix, research has shown the criticality of community confidence and the objectivity of the decision making body and transparency of decisions. A key foundation for achieving this benchmark comprises an appropriate evidence base from a trusted source, most likely to be an independent enduring research institution such as CSIRO or Water RA either directly or through research commissioned by a body such as the NH and MRC. It is therefore important that there are trusted research institutions with the capability and capacity to meet this need. However, even if suitable evidence and consultation approaches are available, without national and state-based policy and regulatory frameworks supportive of integrated water management, water supply planners will remain challenged to include centralised and decentralised palatable reused storm water in the need to supply augmentation

options they can transparently include in their planning and discuss with their communities. Furthermore, it may not be sufficient to get all options on the table if there is inconsistency within and between the regulatory frameworks that will govern the successful implementation. For example, it would be important to ensure that water quality is also considered when incorporating alternative water sources into allocation frameworks or regulation of (indistinct words).

So in conclusion, Water RA concurs with the Productivity Commission's overall finding that further water reform is needed to fully address the goals of the NWI and that ongoing research and capacity building will be central to Australia's ability to deliver the sustainable management of water resources in the face of future challenges. From our perspective, to be successful the new reform initiative will need to be characterised by clarity of objectives, an ongoing national leadership by an agency also charged with monitoring and reporting progress and identifying knowledge needs and priorities. It will need greater focus on water quality aspects of water resource management and their interrelationship with water quantity and recognition that these lie at the heart of many current barriers to progress of integrated urban water management, especially the consideration of all options. It will require the inclusion of mechanisms or incentives for efficient and reliably sufficient funding of research that addresses emerging challenges and opportunities, fills knowledge gaps, generates the evidence base that ensures rigor of new policies and regulatory frameworks, and supports the sustained focus and effort often necessary to solve complex issues facing the water sector, particularly where they're long-standing and historically intractable. And finally, it will also need the inclusion of mechanisms or incentives for development and retention of the capability and capacity within research bodies to ensure relevant research can be delivered in a timely manner and within the broader water sector to ensure the anticipated value is realised from research investment.

Thank you for listening to our submission.

COMMISSIONER DOOLAN: Thank you. I'd like to follow up, and so will John, I'm sure. Water Research Australia seems to be one of the few, as you've mentioned, areas where the industry has supported it; it has an ongoing future for all the reasons you outlined. So, to maintain capability, to provide the knowledge to deal with future challenges. So the industry have acted on its own, rather than lose that capability.

MS ROUSE: M'hmm.

COMMISSIONER DOOLAN: Having done that, what's the argument to governments to come back into the equation, when clearly it's been successful? Your organisation shows that.

MS ROUSE: M'mm, m'mm.

COMMISSIONER DOOLAN: So what is the argument back to governments?

MS ROUSE: I think partly whilst we, you know, expanded our focus and we continue to the scale at which we can operate is, you know, substantially diminished, if you consider the breadth of the research effort that was underway when we had the various other collaborative

centres in existence, so at the current level of resourcing it's a struggle I guess to maintain the capability. We're very conscious. A good example is the centre of excellence in water recycling and that came to an end. They generated various products and materials to support the industry and the sector, but circumstances have changed. We've now got a hiatus of sort of a couple of years between when their research completed and the external environment doesn't stay still. So the materials that they produced are a good starting point but still need additional augmentation and tailoring and maybe there's, you know, some new materials and new research that's required to address our current challenges. So I guess we feel like we're doing the best we can with the resources we have, but are cognisant that water is such a significant underpinning of the Australian economy and productivity that, yeah, in the past government has seen fit to provide greater support and benefits could be achieved and value - more value delivered from the research with greater investment.

COMMISSIONER MADDEN: I guess a little bit of a follow-up on that, and in terms of comment on collaboration between your members. The level of that, or is it very much state-based? It would be just good to get some oversight from - you're ideally placed, I assume?

MS ROUSE: Yes, yes.

COMMISSIONER MADDEN: To actually talk about collaborative models that may work. I guess for clarification, do you have any kind of joint research program, or is it very much an agenda setting of items?

MS ROUSE: No, we have a research program but we respond to the needs of the sector. So we're guided, I guess, from the top down by the research - the urban water research strategy that's in place, but also from the bottom up in terms of our members' needs, and I guess our model is such that our members will come to us with issues. We will work across our membership to see whether they're common problems shared, and then look to build collaborative teams and - both for the funding and the delivery of - you know, to meet those knowledge needs.

COMMISSIONER DOOLAN: So can we just - - -

COMMISSIONER MADDEN: Yeah, so then come back because it would be good to kind of get an idea of the types of collaboration you see, either within your (indistinct), or I guess, you know, are there joint programs that you see happening to the side of your organisation? It would be just good to get some overview.

MS ROUSE: M'hmm. I guess in terms - - -

COMMISSIONER MADDEN: Particularly in urban.

MS ROUSE: Yeah, who's doing collaborative research in urban.

COMMISSIONER MADDEN: Just to constrain it a little bit, that's all.

MS ROUSE: Yeah, yeah. So, I guess we would be a significant player in what's being delivered in collaborative research in the urban space. We have the ten focus areas that pick

up on the urban water research strategy that was led by WSAA, you know the development was led by WSAA. We have a strength in our portfolio around, I guess, our historic roots. So a lot of water quality, both for drinking water, catchment management, alternate water sources increasingly, also climate change and customer perceptions. They're the sort of areas where we've developed strongly. But we're conscious of working collaboratively alongside other organisations, so I guess the CRC for water sensitive cities, and also the Water Services Association. Both are key players in delivery of collaborative research; WSAA particularly around the asset space and infrastructure and the CRC around integrated and the management. So we're mindful of those strengths and existing organisations and certainly not seeking to, you know, to duplicate in any way. It's all about getting the sector's needs met by the most appropriate body to coordinate that research and lead it.

COMMISSIONER DOOLAN: What do you say with the funding model that you have. It's precarious; do you have to argue it frequently; is it something - or is it well supported by the organisation?

MS ROUSE: We've recently surveyed our members and they are generally supportive of our membership model and our fees. That said, you know, we run fairly lean and, you know, precarious insofar as with our current model if a large member was to leave that would cause - cause us to make changes to what we're delivering. It wouldn't threaten our, you know, viability but it's certainly something that we keep a close eye on and are always looking for opportunities to increase the value that we deliver to our members for the fees they pay.

COMMISSIONER DOOLAN: Yes, because just - then they have to argue for every dollar with the regulator, so.

MS ROUSE: That's right. Yes, yeah.

COMMISSIONER DOOLAN: Just following up one of your key points, which I think is a good one. The investment, all options on the table, therefore the transition to alternative water sources. Is that an area that - I know a lot of work has been done, but is that an area where there is still further work to do if the water sector did want to have all options on the table, you know, in a very even-handed way. How far are we away from the knowledge base that would support that community position?

MS ROUSE: That's a very good question, and one that we're currently working with our members to address. So we have what we call a community of interest around alternative water sources and establishing the state of the knowledge now and what gaps may remain. Particularly recognising the point that I raised, that it's now being - needing to be factored into planning when the drivers - its drivers are less obvious and clear to communities, which may necessitate the development of new approaches, which may build on what was done before but may need to be quite different. It's an issue that we've been discussing with our parallel organisations in the US who are facing - you know a lot of work's been done on the west coast in California. Their drought is famous but as you move to the eastern states their drivers are more around not being able to discharge wastewater into key environment - environmentally significant areas, such as Chesapeake Bay, and also a growing population which is sort of similar to some of the challenges we have in Australia, where the cost or the environmental requirements to discharge into waterways make the use of wastewater for

drinking and the treatment that you would need to undertake to do that far more viable, and if you were just looking at how cost-effective then represents a very viable option.

So our members are struggling, I suppose - so we're identifying what those knowledge gaps might be, or capability needs, because it's not just around knowledge, it may be about building capability as well. But at the moment they can't even transparently in some cases participate in what we're doing or, you know, say that they are, which is - that's, you know, trying to get - it's very difficult, it's hobbling progress, m'mm.

COMMISSIONER MADDEN: Just on that, and maybe it's through your submissions, but if you could comment. It's around that water quality stuff. We've had some examples, including Western Australia in terms of those quality issues; you talk about using an aquifer. Then we can see straight away issues around water quality. I'm just wondering, what other kind of hotspots or issues are on that kind of five, ten year horizon that actually - your membership might be aware of that we're not aware of, that actually kind of articulates a problem for people?

MS ROUSE: There's a number of, you know, emerging contaminants, and I don't know if they're five or ten years out, they seem to be approaching us at a, you know, a rapid rate, which will potentially necessitate some changes in how we approach those water quality risk assessments, for example. I'm thinking particularly some of the things we're looking at you have heard of in the media, so they're the ones that communities are concerned about but we're looking into the scientific basis of that concern. So certainly the PFAS [poly-fluoroalkyl substances that are found in some firefighting foams] and the antibiotic resistance, and the micro-plastics and engineered nanomaterials. There's, you know, a whole suite of emerging contaminants that perhaps behave in ways different to the contaminants that we've looked at in the past. Particularly in the case of antibiotic resistance where even the methodology for undertaking the risk assessment will need to be adapted to enable it to be, I guess, compared by the sector in terms of where does its risk lie, you know, to get a metric you can compare these different risks with. It will be a challenge and it's something else that we're working on.

I think that bringing the environmental regulation and the water resource management frameworks together and picking up perhaps on the aquifer recharge issues, certainly within my experience in South Australia, you know you have - some metrics are required by the environment protection agencies, others by the water allocation agencies and without bringing them together potentially I guess from a risk basis it adds to the work and the cost of, you know, exploring these options and also the level of certainty you might have in being able to bring an option to delivery.

COMMISSIONER MADDEN: Thank you.

COMMISSIONER DOOLAN: So just again, given what you've seen, what you've seen work, if we were successful, in that governments did sign on to a new NWI with a research (indistinct), what do you - have you any thoughts on what might be the architecture that might sit underneath it, to be most efficient and effective, if you like?

MS ROUSE: I would be consulting with my members around that. We haven't done that.

COMMISSIONER DOOLAN: Sure.

MS ROUSE: And I think it would obviously be linked to a set of principles of what was required of the research that was delivered, so if you - and may vary, I suppose, according to the type of research or knowledge needs that they are. So some kind of funding around ensuring that those problems that needed the long, sustained effort, that that funding was assured for the time - not necessarily for the same entity or whatever, I'm talking more around thematic areas or particular needs, so that we don't end up with the, you know, erratic investment or potential loss of capability and attractiveness of the sector for, you know, new graduates and academics. So that, you know, it's still seen as a viable career pathway because we need that capability, both within the utilities to commission research but also in the research sector to deliver it. And the water sector would like to be able to attract the brightest and best, but with uncertainty then there's drift out of the - out of the sector.

COMMISSIONER DOOLAN: Do we have any hard facts on that drift, or loss of capability as the research funding has declined in recent years? If there were any numbers that would be - I mean we talk about it, but if there were any sort of numbers, in any area in its base.

MS ROUSE: Yeah.

COMMISSIONER DOOLAN: To help illustrate that point, that would be helpful.

MS ROUSE: I think that's something that can be collected. I guess we've tended to look at it in terms of the dollar investment and what that equates to, and knowing, you know, how many people that might've, you know, sustained. But I think that the numbers, that's something that I can - yeah, no I think that that's entirely - - -

COMMISSIONER DOOLAN: If there was something you could add it to the submission.

MS ROUSE: Yes.

COMMISSIONER DOOLAN: That would be very helpful.

MS ROUSE: M'hmm.

COMMISSIONER DOOLAN: John, have you got anything more?

COMMISSIONER MADDEN: No. Thank you.

COMMISSIONER DOOLAN: I haven't either, Karen. Is there any further remark?

MS ROUSE: No. Just again to thank you for the opportunity to present. I look forward to seeing the final result.

COMMISSIONER DOOLAN: Thank you. Well, that brings us to the end of our current list of presenters. There is an opportunity for anybody in the audience, if they wish to make a further comment to do so. Darryl?

MR DAY: So just listening to some of the questions about research. I think one of the important issues is that much of the research that WRA and (indistinct) Goyder undertakes for the public good, therefore, there is not the same return that you get from investment in research, doesn't mean that all water research is necessarily in the public good. There's many examples where particularly some of the CRCs early on that we talked about were able to commercialise the research, but the return is very much supporting public policy and outcomes that the community is acceding. So when you're trying to elicit support from a whole lot of donors for research, it's very, very hard of the value back to the individual where that research is up there for the public good or domain.

Perhaps the other reflection is one area of investment we haven't talked about is bioregional assessments for coal seam gas. And the artificial gas argument involves a company to order research is probably an example where the Commonwealth has seen a knowledge gap associated with water quality and - in particular, and then invested quite heavily. That program has now come to an end I understand at the end of the last financial year but that's just perhaps an example where government has still recognised the need to invest in research for the public good, to give confidence to a sector. In this case it's a sector related to order water at (indistinct) water and energy.

COMMISSIONER DOOLAN: Thank you. All right, well ladies and gentlemen, that concludes our scheduled proceedings. So I adjourn these proceedings and the Commission will resume its public hearings tomorrow in Melbourne. But thank you all for your attendance and participation.

MATTER ADJOURNED[12.28 pm]



Australian Government
Productivity Commission

PRODUCTIVITY COMMISSION

NATIONAL WATER REFORM

DR J DOOLAN, Commissioner
MR J MADDEN, Associate Commissioner

TRANSCRIPT OF PROCEEDINGS

AT MELBOURNE
ON TUESDAY, 24 OCTOBER AT 9. 22AM

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COMMISSIONER DOOLAN: Good morning and welcome to what is the last public hearing for the Productivity Commission inquiry into National Water Reform. The hearings follow the release of the draft report which happened in September. My name is Jane Doolan and my fellow commissioner here is John Madden and I would like to begin by acknowledging the traditional custodians of the land on which we meet, the Wurundjeri people of the Kulin Nation. I would also like to pay my respects to their Elders past and present.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission's work and to get comments and feedback on our draft report. We've had hearings in Canberra, Sydney and Adelaide, and today's in Melbourne is the last, and we will then be finishing the report, having considered all of evidence, the submissions that we've received, as well as the presentations that have been made at the public hearings.

Participants and anybody who has registered their interest in the inquiry, will be automatically advised when the final report is released by government, which may be up to 25 parliamentary sitting days after completion and we will be putting the report in to government prior to Christmas in December. So 25 sitting days could take us through somewhere – it could be up to June next year for people to be aware of.

We do like to conduct our hearings in a reasonably informal manner but I do remind participants that a full transcript is being taken and for this reason, I cannot take comments from the floor but at the end of the proceedings at the end of the day, we will provide an opportunity for any people wishing to make a brief individual presentation.

Participants are not required to take an oath but should be truthful in their remarks. They are able and welcome to comment on issues raised in other submissions during their remarks. The transcript will be made available to participants and will be available on the Commission's website following the hearings. Any submissions are also on the website.

For occupational health and safety purposes, I would like to advise you that in the unlikely event of an emergency requiring evacuation you should follow the exit signs to the nearest stairwell. Do not use the lifts. There will be floor wardens who will issue instructions and just follow their instructions walking down the stairs. If you can't walk down the stairs, please advise the wardens who will make alternative arrangements.

In how we conduct it, participants are invited to make some opening remarks and then will have an opportunity to actually ask questions and explore some of the points in greater detail. Okay. I would now like to welcome Shaun Cox from – now?

MR COX: Inxure.

COMMISSIONER DOOLAN: Inxure Strategy Group and for the record, could you introduce yourself Shaun as well.

MR COX: Certainly. My name is Shaun Cox. I'm the director of Inxure Strategy Group which is a small consulting firm. Small as in only me. That's been running for three years and prior to that, I had a history in the water industry having run a few different water authorities for 18 or so years.

COMMISSIONER DOOLAN: Would you like to start?

MR COX: Thanks Jane. I guess my opening remarks and observations are pretty simple and they really boil down to three key points, I suppose. One is that there's considerable pressure on urban water across the whole water cycle in our cities and that comes down to two real primary reasons. One is population growth. A lot of our cities are perhaps due to double over the next 40 to 50 years and there's significant climate change pressures as well, and if you look at the current levels of service with respect to the whole of the water cycle within our cities, it's inadequate and that's only going to get worse without some form of intervention.

So that's probably the driver in my view and then the second point is that I think considerable gains have been made in the water and sewerage element of the water cycle as a result of both the NCP and NWI reforms of the 80s and 90s, but I think there is some evidence that those gains are now being eroded. I think there's arguably a generation of folk that are not aware of the original drivers of those reforms and it's almost like we need to maybe arguably go back and redo our wedding vows with respect to those reforms and just re-acquaint ourselves with what we were trying to achieve there. So that's point two.

Point three is that arguably one of the points of reflection, I think, as a result of those reforms is that it's created an allocative efficiency across the water cycle and what I mean there is that there's been significant gains and optimisation of the water and sewerage part of the water cycle as a result of those reforms, both through commercialisation and corporatisation and economic regulation that goes with it. There's been a lot of optimisation for that part of the water cycle but there hasn't been the commensurate reform across the balance of the water cycle, and so this is leading to a lot of what I call allocative inefficiency and it's getting to the point now where significant investment is being made in the water and sewerage element of the water cycle for very little gain and if we were able to step back and plan holistically across the whole water cycle, we would get far greater gains for probably a lesser investment and there's some quite specific examples of that across the country.

So I might draw a line on it there, Jane and I'm happy to take any questions around that.

COMMISSIONER DOOLAN: No, actually, I'd like to explore it. So the gains being eroded, where are you actually seeing that happening? I mean, we have a sense of that also, but the more examples we can point to - - -

MR COX: I think the – there's a couple of areas. I mean, one is the sort of autonomy, if you like, and the corporatised model which allowed for standalone boards, albeit appointed by the shareholder. There's evidence right across the country, I think, of a lot of overreach by the shareholders over the top of those boards and those boards becoming increasingly disempowered and to the point where, I think, in some circumstances you'd nearly wonder whether it's worth even persisting with those boards because they're so – they're almost put in a position where they're so conflicted it's making it very hard for them to operate.

I think some other areas of evidence, I haven't been able to get to the bottom of it, but there's been a recent announcement by the South Australian government that it's an election commitment to what they call de-corporatise SA Water. I really do wonder whether they'd thought that through because they'd be poking themselves in the eye, I would have thought, in

terms of a loss of dividend and the loss of the economic regulatory model which takes away that independent discipline for price setting which I would have thought is a great ally of a shareholder.

I wonder too whether some of the economic regulation hasn't advanced perhaps in the way that it should have, so I think the Victorian model is probably a good model. There's been some great gains made there where the customer is being introduced into the economic regulatory model. This PREMO model that the ESC have developed and I can't recall what the acronym is for PREMO but it seems to be the underpinning of bringing the customer into the frame and for the utilities that engage actively with the customers there, they're probably been given a more favourable consideration with their economic regulation.

But you don't – I'm not seeing evidence of that same level of maturity across Australia in some of the other economic regulatory models and States like Queensland just appear not to have advanced at all, where they don't even actually have a deterministic economic regulatory model. I think the final point I'd make is, in some of the other parts of regulation, particularly around water health, I just wonder whether that's actually losing its way because it's becoming almost a risk elimination mindset that's been brought to the table as distinct from an outcomes-based approach.

So regulators seem to becoming very risk adverse and very fearful of reprisals from customers and shareholders and the like. So it does seem as though there needs to be a need to step back and as I said, perhaps reset the whole framework which I think is a very robust one and there's been significant gains made in the last 20 years under that framework.

COMMISSIONER DOOLAN: Sorry, that would be the drinking water quality where you - - -

MR COX: Correct, yes.

COMMISSIONER DOOLAN: Yes, okay.

MR COX: And also, I think Jane as it also then relates to alternative sources of water, like recycled water and stormwater. So it is – I'm seeing evidence of an almost a risk elimination mindset with drinking water, but it also then spills over into regulation recycled water and stormwater.

COMMISSIONER DOOLAN: So, I just want to also follow-up – John interrupt at any point. You also said some of the current levels of service are inadequate. Could you expand on that as well, areas where you feel that to be the case.

MR COX: It's really – in the metropolitan areas, it's really across other elements of the water cycle, so I think there'd be no question – and when I say "inadequate", I mean from what I would understand to be the perspective of the customer. I think that's ultimately got to be the test of levels of service. It's not – it shouldn't be an engineering test of level of service, it should be a customer test. But I think there's evidence that customers are not happy with levels of service around flooding, for example, and that's just been exacerbated by climate change and as cities grow and the impervious areas increase, the combination of climate change and those impervious areas is only going to exacerbate those flooding issues for example.

Those increase run-off issues are also then impacting on waterway health and it's clear that as we become – the cities become increasingly dense that we actually need to make sure that our open space is of a, what I call a 365 24/7 quality and so for our waterways and adjacent open space to be compromised like that, it's not where – we're not going to have vibrant and prosperous communities into the future is my view, and they're not where they are now and that's only going to get worse without intervention, particularly as I said, with respect to population growth and climate change.

I think it's perhaps not, sort of, understood but I think one of the worst enemies which Ben Furrage might talk about of waterway health and flooding for that matter, is the growth in impervious areas and that comes with population growth and no real, sort of, thought and consideration given to management of planning outcomes.

So I think they're a couple of, sort of, key areas and I made comment about the allocative inefficiency. There's been some really positive examples of where that's actually been addressed in Brisbane, Queensland Urban Utilities have done a pilot project where they've actually, instead of upgrading a sewerage treatment plant at Beaudesert, they've actually restored some riparian zones of the Logan River and that's actually led to far broader benefits, it's actually addressed the core issue of reducing nutrient sediment run-off, but it's actually also improved environmental outcomes and also adjoining social issues because I believe there was an adjoining horse stud that was going to wash into the Logan River if it wasn't addressed, and that was done at a cost that was far cheaper than upgrading the sewerage plant. So that's a, sort of, very specific example of standing back and trying to optimise across the whole of the water cycle, rather than optimising a component part of the water cycle, and that's where we can progressively overcome this allocative inefficiency that I talk about.

But that, as we could well imagine, I think we need to not just think about making sure we don't back-slide on the current regulatory arrangements but also making sure that we improve them. It shouldn't just be about holding but it should be about improving, and I think there are some positive signs. I believe the Queensland experience could ultimately lead to a nutrient offset scheme that's been coordinated between the EPA and if they did have an economic regulator, they'd have to be involved in that as well, I'd imagine, and as I said before, the ESC model where they're bringing the customer into the economic regulations is also a positive step.

So the nature of Australia where we're a federation of states, there's lots of little experiments and it's an opportunity through the National Water Initiative to try and bring those experiments to the fore and pick the eyes out of the best of them, I think.

COMMISSIONER MADDEN: Yes. We've heard a similar thing in Sydney about a potential offset scheme and concerns that somehow it won't, you know, come to fruition through various regulatory regimes and the like. I guess my view on these things, because they're somewhat experimental, they need a lot of testing to make sure they are worthwhile before actually progressing.

So I don't see regulatory regimes being incompatible with that type of process. It's who should be responsible and do we have people who will take responsibility to actually investigate these opportunities? I guess, the second question then is well, what are good processes around that to make sure it becomes business as usual as opposed to opportunities, as you say.

So I guess the first question is, is the responsibility of utilities? Is it a planning responsibility? Is it local government? How do we get collaboration if collaboration is needed? So if you can just comment on roles and accountabilities in this area.

MR COX: Sure.

COMMISSIONER MADDEN: And I guess, it's national wide because I realise it might be different, and then I guess secondly, what are the barriers at the moment in terms of processes. You've mentioned regulation but in terms of health and the like, that might be over-prescriptive. What really are the barriers?

MR COX: So I think to answer that question, John, I'd probably reflect on the process first. So regulation's kind of like step 3 and 4 in a process for resetting something, isn't it? So the first step is planning I think. There might be steps prior to that, but in my limited world and experience, it's planning.

Then that translates to policy and then it translates to regulation, and so I think a couple of observations. One is that we could do more collectively across Australia to try and facilitate integrated planning. I think the notion of a single agency that does that, is very simplistic and naïve. You can never – the world is very connected and you can never integrate enough things to actually drive that connectiveness. So there needs to be some vehicle through which you actually encourage that integrated planning.

I mean, there is an attempt at that being made in Victoria at the moment through the Victorian Water Plan I think they call it, and they're creating these integrated water management forums that are made up of the whole – all the stakeholders that you just mentioned, and the idea is that they come together and try and define a vision for a particular region, so they're catchment based, and then off the back of that vision they actually start to drill down into particular plans and projects and initiatives.

So to that example of nutrient offset schemes, that would be, in a logical manner, a good way of actually setting the overall goals and objectives, because I think if you start with nutrient offsets you can miss the objectives and it's very important to get that planning in place in the first place.

I think as part of that planning, I do – I think you're making the suggestion and I would agree with the suggestion that it is important to pilot some of these things. I think to go from zero to full speed in one step, is naïve and to pilot these things in a way that QUE did in Queensland and it's a credit to QUE and the regulators that actually tried that. I think it's a very good initiative.

Perhaps what I'm not seeing though is a robust analysis of those pilots and learnings from those. So there's a number of these things happening. Newcastle are doing some as well, but we just don't seem to be good at learning from those and filtering them up and try to capture them, and whether that's because of the federations, our federation and having a gaggle of states and they're not talking to one another, I don't know, but it would be good if there was more discipline around learning from those pilots and then bringing them to the fore. Then,

I suppose, from those learnings, once you're confident enough to actually make some change, you can then move into the resetting of policy and then resetting of regulation.

Then the final point I'd make which is your point about roles and responsibilities, I think there has been some confusion and blurring of the lines between policy and regulation, you do see some regulatory bodies around Australia that are a mix of policy and regulation. I think New South Wales EPA is unashamedly that, and I just wonder whether that's the right model. I don't know that necessarily splitting them is the right solution but they need to be very clear that they wear two hats and understand when they're wearing both those hats, and I don't see that sometimes in the way that they actually operate.

So there is some confusion. So I think it's first of all breaking down the process and then making sure that there's clear responsibility across that value chain. And then finally quickly, to the role of the water utility, I think all parties should be at the start of that process. The water utilities don't have formal remit to plan but they have a lot of experience that they can bring to the table in the planning process, and sometimes they have the resources, so in Victoria they're actually being used to enable that planning process. You know, I wouldn't necessarily advocate that as a national approach but I think it's just got to suit the local circumstances and in Victoria it, kind of, suits to have the water utilities enabling that process because they've got the resources to bring to the table to help facilitate and make that happen.

But don't exclude that experience from the planning and policy setting would be my advice, and similarly don't exclude the planning and policy experience from the operational implementation phase either.

COMMISSIONER DOOLAN: The key area of the water cycle that we've heard is, sort of, generally managed outside of it, is stormwater management.

MR COX: Yes.

COMMISSIONER DOOLAN: Have you had anything in your experience that would suggest a way of bringing stormwater into the whole of water cycle management in a more effective way?

COMMISSIONER DOOLAN: It's difficult, I think, Jane, it would be very simplistic to say that the Melbourne model where Melbourne Water have responsibility for waterway health, not for stormwater but for waterway health which then gives them a foot into the door to stormwater management, is the right model. I don't like jumping to institutional arrangements as the answer. I think it's worth, sort of, standing back and reflecting on why that is the right model.

I think to that earlier point is the one thing that Melbourne Water do do is they've come very active in facilitating the planning around stormwater and waterway health more generally, so I think Melbourne Water are up to two or three iterations of a flood strategy at the moment, and the latest flood strategy was a terrific example of collaborative planning where they actually had an independent chair. They actually had the head of EMV, Emergency Management Victoria as the independent chair for the flood strategy. They had a very robust engagement process around it and so it's now actually a strategy that is genuinely community owned and

the councils who have a major contribution to it, 50-odd – 50 – maybe 36, I can't remember now – councils that are part of that strategy, have strong ownership of it.

So I think rather than so much the institution arrangements, perhaps the learning is in how they've gone about doing that planning and the collaborative approach that they've taken, and trying to institutionalise that collaborate approach as distinct from institutionalising its structure and that's no easy. I don't have a really snappy answer for that, but that's a good example.

Then similarly, Melbourne Water are doing similar things with the waterways strategies and stormwater strategies, but I can think of another capital city here it's completely – it's almost – the management of stormwater is almost dysfunctional where you've got several councils across a catchment and they're bickering with one another about what's the best investment to mitigate flooding across that whole catchment. So in this particular city, at the downstream end of it, there's an airport, their main airport, and upstream the people don't want any buy in a role in managing flooding across that catchment. So that's probably an example of where it is dysfunctional and there seems to be no intervention arguably to State level to try and actually bring that together. I won't say which capital city it is, but that's probably an example of not how to do it.

COMMISSIONER MADDEN: Can I just have a follow up on that flood area.

COMMISSIONER DOOLAN: Yes, sure.

COMMISSIONER MADDEN: I guess one of the comments I have, before when you talk about the process. The first question or the first issue, I think, is problem identification.

MR COX: Yes.

COMMISSIONER MADDEN: And objective setting.

MR COX: Yes.

COMMISSIONER MADDEN: I realise part of that may be part of the planning so. But in terms of – you know, with just issues about flooding and things like that. But is there good work done in terms of then what the potential impacts may be? That example in the unnamed city, you know, are people aware that – what the impacts actually might be of not actually managing that flooding? Or is it – I don't know – it's easy to dismiss something where you actually say flooding's a problem, as opposed to flooding can cause X.

Because it's the same even with benefits and some of the concern I have around the idea of customer consultation, unless it's very informed customer consultation about what the costs are of options you are putting up, and also what is the problem that you are solving. So it actually is a very information intensive process to be done well. So I guess I'm just trying to see, are we doing that part of the process well?

MR COX: It's variable and I'd say across Australia, and that's perhaps the consideration for a National Water Initiative, is there some capacity to make that more consistent across Australia

and somehow how we learn from others and actually don't become competitive and say "Well, we can do it better than the next State along", but can we somehow collectively learn from one another?

I think, you know, in some particular situations, the whole system is geared to wait until there's a disaster and then they respond and probably every city has actually experienced that. I mean, Melbourne, I think, is quite proactive now but if you go back through history it's been disasters and flood commission that have actually probably triggered them to get where they are today, and I can see that same scenario potentially going to play out in other capital cities as well.

To your point about 'ts resource intensive, yes, it's very resource intensive but it's far more resource intensive to mop up the mess because you haven't actually planned properly or to actually go and try and build something when you actually haven't done the planning properly. I mean, I've been involved in that situation as well where you're just getting beaten from pillar to post by the community because of a lack of planning at the front end.

So it will always cost more to do that collaborative approach but across the whole cycle it's going to cost less in my view, and I think the other point around understanding the problem better and again I'm not a fan of sort of jumping immediately to changing institutional instructions to solve something, but one thing that I do reflect on a lot is when you look at Melbourne Water they invest a lot of time and effort and resources and money into actually understanding the problem. So they've actually got a couple of major research programs at the moment, three major research programs, for instance on waterway health and associated stormwater impact.

One is the CRC for water sensitive cities. They've got two other programs with Melbourne University and their knowledge of waterway health and how that's informing decision-making is outstanding, and that's actually paying off for them because they're now making far more prudent investments as a result of that, so the money that they're investing in that planning, in that research and you'd have to talk to them about the exact numbers, but I know first-hand that it is actually paying off for them, that investment in knowledge is actually helping them make more prudent decisions down the track and delivering better value for their customers and for the outcome that they're trying to achieve.

COMMISSIONER DOOLAN: Much of the whole of the integrated water cycle is truly sort of meshing boundaries between the water sector and the statutory planning sector, the local governments, and certainly the collaborative forums are definitely a way of making those two sectors sort of talk together. The scales are different, imperatives are different, ministerial portfolios are different. Do you have any reflections on how to make that intersection, particularly for new development intensification, big (indistinct) sites are more effective? Currently it's been cobbled together and maybe that's the way we all have to start, but it does seem that those two sectors intersecting is the key to integrated whole cycle management.

MR COX: Yes, that's a really good question and I don't think I have any snappy answers to that. I have seen a number of different models when I headed up Gold Coast Water we were part of the then Gold Coast City Council and to be quite honest, that was probably the time where we actually got the strongest integration when the water and sewerage was part of the council, but there were other downsides to it being part of the council.

So there's always pros and cons to every model and I don't know that water and sewerage being part of the council is necessarily the solution, and it's actually back in the council now. It went out for a period of time and now it's back in, so there was strong interaction between those two disciplines, I suppose.

I think the collaborate forums in the absence of that collaborative forums are the best means of actually bringing that together, but as I said earlier knowledge is really critical. It's very difficult trying to convince, I think, planning agencies and development communities to invest more or change practices if they don't actually understand the consequences of the impact of their current – the way they're actually designing development or the impact of building more impervious areas, and I think we have probably been pretty lousy as an industry at really communicating that. We kind of understand it ourselves in very technical terms but then just simplistically saying "You know if you double that impervious area on that property, it's going to collectively have this impact in terms of flooding and waterway health and so forth". We just seem to have really struggled to communicate that to the broader community I suppose.

We talk well to ourselves as an industry, perhaps not to others and maybe the process that the ESC are taking us through collectively to engage the customers more is a good one. So the work that Yarra Valley have done recently on citizens (indistinct) has been a great example of getting informed customer feedback around a whole range of issues, not relating to waterway health, but as it relates to water and sewerage and that's perhaps a good model to use elsewhere maybe.

COMMISSIONER DOOLAN: Yes, because it is the water sector needing another sector to undertake their business differently to have water sector outcomes which is - - -

MR COX: But I think that other sector is quite rightly very influenced by an outside set of external stakeholders being the development community who in turn are arguably influenced by first home buyers who are wanting affordable properties and the like. So it's a complex web that I don't think we understand well.

COMMISSIONER DOOLAN: John, do you have any further questions?

COMMISSIONER MADDEN: I just wonder if you have any – I do apologise if you haven't covered in any of your statements – but just in terms of pricing and how you actually, I guess, then recover through customer consultation what people are willing to pay you for additional services, if you actually want the customers to set services. Have you any comment or have you seen any, kind of progression in different parts of Australia in terms of actually looking at – not just service levels but then what is the flow-on impact on pricing from that kind of discussion?

MR COX: Well, I think again, I've quoted it a couple of times, but this ESC PREMO model's probably one of the better ones that I've actually seen where they're – and I think there's a long way to go. I think both the industry itself and the ESC would recognise they're just putting their toe in the water but it's great credit to them that they're venturing down that path, but that does seem to be quite a good model for actually getting that two-way interaction on levels of service and price.

I think probably the next area of opportunity is to, I guess as you're both exploring, is to broaden it beyond water and sewerage and say, "Well, okay, we can make a decision here about a sewerage treatment plant" but if we stood back and looked at the broader water cycle, are there broader opportunities that we could actually consider there as well.

So as you said earlier, John, I think it's important not to sort of go from zero to full speed in one foul swoop and I think it's worth letting that PREMO model play out and support it, but maybe in the next one or two levels of – another one or two iterations and levels of maturity it might be that you can start to bring in the broader water cycle considerations so the community can actually start to understand that more as well, and as I said, lead to what I think is an optimisation across the whole of the water cycle because I think we are – we've got a lot of efficiency gains, I think out of the reforms of NCP and NWI to date, but I think we run the risk of flat lining, perhaps even going backwards, if we don't try and look to what lies across the whole of the water cycle and we are, I think, generating these allocative inefficiencies that I talked about.

As an aside, you perhaps read, Dieter Helm from the UK has written a bit about that as well and the UK experience. I am sure you've read some of that information too. It's worth considering, I suppose, as part of the mix of your considerations here.

COMMISSIONER DOOLAN: Given the shift that needs to happen towards integrated water cycle management, what do you think's appropriate for National policy? So much of that, it's owned by State cities that are owned by States. The solutions are worked out more at a local or regional level, so at the National level, what do you think would be the most effective, if you like, policy statements or elements, to bring into a National framework?

MR COX: I think initially there's COAG statements around cities and I think initially – well, first of all, making sure that urban water remains in the NWI but then tying that urban water component to other COAG statements about water, so you're not just managing water for the sake of managing water. You're managing water for the sake of creating more vibrant and prosperous communities or whatever the objectives that COAG set for urban centres around Australia. So that's probably one.

And those principles are really powerful. They sometimes seem a bit glib but I think they're really powerful to make sure that they're there and in there. I think, and this, sort of, gets a little bit hit and miss and wish list-y from here on, but I think trying to drive towards some best practice regulation across Australia. So not just consistency because consistency can lead to consistent mediocrity, but consistent best practice, so some principles in there around best practice regulation and again, there'd be some principles about actively involving the customer and actively encouraging planning which perhaps goes beyond the regulatory space but there might then be another principle around integrated planning and looking to try and optimise across the whole of the water cycle and to John's point, for a particular outcome. It's not just for the sake of doing it, but it's doing it to resolve a problem and achieve a particular outcome for a community which then in turn, ties back to that sort of high level principle around why is urban water in the NWI in the first place and what does it connect it which would be some broader COAG principle about water.

I think it's probably worth just nothing which is a bit off-piste here, but there's still a long ways to go with some of our rural communities as well, and that shouldn't be overlooked. I mean, the townships – I think we're really failing a lot of our rural townships across Australia and I'm sure that hasn't been overlooked in your analysis either.

COMMISSIONER DOOLAN: No, we are certainly aware of that.

COMMISSIONER MADDEN: Can I follow up on that?

COMMISSIONER DOOLAN: Okay.

COMMISSIONER MADDEN: Can we be more explicit in terms of failing?

MR COX: Particularly levels of service. I really worry about just basic stuff like drinking water quality, and it's drinking water quality in terms of both providing safe water but also providing water that's aesthetically pleasing to drink. I mean, there's strong evidence now that we're building a huge financial legacy for ourselves with these communities as they switch to sugary drinks and so forth. They have been doing that for ages but it's just becoming worse and worse and I heard a quote the other day to say that one of the states and territories, they anticipate that every one of their regional communities will have renal dialysis facilities within those communities. I mean, just think of the cost of that, and that stems from not having high quality water.

COMMISSIONER MADDEN: So a lot of this – the towns provided by bore water and things like that in the main, or just - - -

MR COX: It's primarily, my understanding is that – I mean, you've got to define what rural Australia is, but probably 80 to 90 per cent of it is bore water provided, but there are a number of schemes that rely on surface water and I think the challenges are largely the same then, which comes down to capability and capacity to be able to provide good quality drinking water. And again, not standing back and understanding the true cost of it. So sort of penny pinching and saying – it's not the facilities per se that are doing it, but society more broadly arguably penny pinches and says "We can't afford to provide better quality water". I don't understand how you can have two levels of service: if you live in Melbourne you get good water, and if you live somewhere else, you don't.

But that aside, there's a sort of lack of understanding of the cost of that as it will impose itself through other health interventions, particularly as it relates to kidney disease and the like.

COMMISSIONER MADDEN: So again a follow up?

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: Is there any kind of institutional issues that's driving that in different states? Is there different performance from your view across the states?

MR COX: Absolutely, and it's been well-documented. I don't think I need to add anything more. I would support what the Productivity Commission and others have already written on that. Yes. There's two states in particular that are really struggling. I mean, that said, the states

like Western Australia and South Australia that I think are doing a pretty good job of it, continuing to provide research and support in those areas, to understand how to service those remote communities well and effectively is important. They are doing a pretty good of it, but it's not – it's a journey, not a destination. There's still long ways to go, I would say.

COMMISSIONER DOOLAN: I just have one more question. Is there any game changers on the horizon? Say direct potable reuse for example? Is there anything that you see on the horizon, innovation technology, that might potentially be a game changer that we need to have on our radar?

MR COX: It's a good question. I'm not sure if direct potable reuse would be the game changer even if it did come to pass anyway. I mean, it still doesn't – direct potable reuse I'm not sure really helps resolve some of the issues across the water cycle. I think at the level – there are lots of innovations coming over the horizon, but I think at the national level that you're thinking about, I can't think of too many to be honest or any. I mean, I do wonder about things like Bitcoin and whether that could actually help drive some sort of competition in the retail end of water, but yeah, there's got to be people with bigger brains than mine that think that through. I don't - - -

COMMISSIONER DOOLAN: Maybe not the national scale either, but yes.

MR COX: Yes, yes, exactly.

COMMISSIONER DOOLAN: Yes, okay. All right. Well, that's it for me. Have you got any final comments?

MR COX: No, thanks for your time. I appreciate that.

COMMISSIONER DOOLAN: Thanks, very much, John.

MR COX: Thanks.

COMMISSIONER DOOLAN: It was good. Thank you. Can I invite Nathan Taylor from the University of Melbourne, and Nathan, if you would just introduce yourself and your organisation for the record?

MR TAYLOR: Thank you, Jane, and thank you for the opportunity to talk to your draft report. My name is Nathan Taylor, as you mentioned from the University of Melbourne. I'm a research fellow looking at quantifying the value of water reliability with Professor Andrew Western, John Langford and John Freebairn as well, working on this topic for an engaging project with the Department of Land Water and Planning Melbourne Water, the Yarra Valley Water, City West and blast, I can't remember the other retailer.

COMMISSIONER DOOLAN: South East.

MR TAYLOR: South East, thank you very much. Looking at Melbourne's water supply system and looking at what the issue of liability means for Melbourne itself. Just picking up a point that Shaun made earlier today. He mentioned when it came to drought issues that the water sector was very reactive and tried to learn from past issues.

What I find interesting is that, probably typical of a lot of areas in the water sector, in that when it comes to the water supply system itself almost inevitably the expansion to the water supply system occurred during periods of stress. Historically the decision to expand the water supply system was triggered, if you will, during a drought period, but because we were looking at – we were building gravity fed reservoirs, there was a substantial delay between when that decision was taken and the response in terms of the augmentation.

Now, during the Millennium Drought, we actually have the capacity to produce climate independent water supply sources and so as a consequence, when the augmentation decision was made, it was made in a period of stress and resulted in very substantial augmentations of the system. Now we're operating water supply systems that involve a very diverse supply of sources, both in terms of the nature of their variability, but also their marginal costs.

Now, I work in this space because I feel economists for a very long time have encouraged the use of marginal cost pricing in the water sector. In Australia we've managed to introduce that in the rural context with some absolutely fantastic results in terms of the flexibility and responsiveness of the rural communities to the available water resource, and that's partly, I would suggest, because we've privatised the risk of failure. So as a consequence, the individuals are motivated to actually manage their own risk of failure. In an urban context, it's still socialised, and the way its regulated is through level of service arrangements, but these are, if you will, intuitive assessments of the community's desire to allocate resources to mitigate risk of failure and they're not explicit at all, and in fact, they're very – sorry, it's not very clear as to how these service obligations actually fit with the level of risk that applied.

So the way we assess reliability in the Australian context, is it a long term (indistinct) capacity, like they'll use synthetic stream inflows of up to a thousand years to try and determine how reliable the water systems are. So service level obligations are set in that longer term context which is appropriate when you're looking at infrastructure that may last up to a hundred years, and you have hydraulic inflows which have extreme levels of variability which may be decadal or even longer, and so that's an adequate means of actually attributing the infrastructure to mitigate risk.

However, it's not – the long term perspective is important but it starts to fall down when we start looking at the short term risks in the water supply system which are critical for determining the marginal cost of water and that's the short term risk that the water supply system will be unable to meet key levels of service.

So I would suspect that – you made the observation in the interim that there's challenges around establishing appropriate roles and responsibilities for the water sector, particularly in periods of scarcity. I would suggest unless the cost associated for liability (indistinct) are actually made explicit, which we can do now, now that we have the capacity to manufacture water in a variety of context. Unless those costs are actually made explicit, inevitably there actually is an intuitive value judgment around how much the society is willing to bear.

As part of my studies I have had the good fortune of looking at some of the people – talking to some people responsible for making those decisions. Inevitably they were professional value judgment makers, politicians, and the way they describe the decision was like they couldn't bear the risk that Melbourne was going to run out of water. It was too high.

By making it explicit though, we can have actually the start of a real conversation around how much Australia's urban centres want to actually invest to avoid the risk of failure and then to actually have that conversation around where that risk of failure should actually be, and without that I feel like half attempts by some economists to try and capture the implications of reservoir failure, like Quentin Grafton's done some fantastic work in this space.

However, the use of an infinitely available high-marginal cost, zero capital cost, backstop technology which you could call a loss function, you know, with a fixed marginal cost, actually doesn't reflect the hydrological risks that the urban water sector actually is confronting and if adopted would exacerbate some of the challenges in the sector because it doesn't incorporate – truly reflect that risk of failure, and as the populations grow, the pressure on the water supply system is becoming even more pronounced and not to mention the implications of climate change.

That is all for my opening remarks.

COMMISSIONER MADDEN: I think I can agree with most of what you said. I'm just wondering then what's the next step from there in terms of implications of actual planning? And you've said you've (indistinct) planning. Have you actually talked about how people did planning during the drought or have you actually talked to people about where to from here now that they might have a desalination plant in their mix and how they actually then plan going forward to minimise costs and look at affordability versus security?

MR TAYLOR: On that point, I think one issue – a lot of the conversation occurs still on that realm of the intuitive if you will, where without making the costs explicit of different alternative, you're actually not very explicit around what the trade-offs really are involved, and a criticism I would have of some of the current regulatory frameworks we go and talk to consumers is unless you – and also a lot of the work looking at consumers' demand for water, we're actually looking at trying to value how much they want unrestricted water, but we're not actually asking them how much they value having water in the first place.

Unless you have that second part of the question, you don't know what the (indistinct) of having the first element actually is and what is the benefit of that? There is an approach adopted sensibly in a number of other industries and also in terms of flood mitigation called properly risk assessment. It was pioneered during the Second World War implemented as a nuclear power sector and adopted particularly rigorously by the Dutch because of their flooding and so following catastrophic floods in the 50s, they had a very extensive process of allocating how much infrastructure should be set aside to mitigate those floods in the future, and given that level of risk, how does it actually translate to other dimensions of society so that – you know, they don't worship, if you will, one form of risk when society – society has many forms of vulnerabilities, and so all of which require infrastructure to mitigate. So they had a very comprehensive approach of doing that and I suspect that's what's required in the urban context as well.

COMMISSIONER DOOLAN: So have you got a little bit more about – sorry, what that actually means? I mean, my observations during the drought were people did plan, they did plan for a risk of failure, I think as you said, they all understood it but the closer you got to that failure happening, the more tuned – you can't accept it. So it's okay for the long run, it's not

okay when you're getting close to it, and we've seen that in a number of areas. It's clear and stark in the drought. But it's elsewhere as well.

So this system that the Dutch have, is that dealing with - - -

MR TAYLOR: It's one way of looking at it. Another way to look at it as well, is to take those costs of actually – to meeting that level of long-term reliability you're looking for and applying that to the current level of storage, and my doing so what you're actually doing is, as you're in that situation, you actually never get at a higher level of risk because you're taking action. That becomes the issue that drives the action that mitigates it, and puts what I consider to be a valid marginal cost on scarcity.

And so the scarcities reflected in how close you are to triggering some of those decisions which are then reflected on the service level obligations which makes you ask, "Is this actually a valid level of risk a society wants to bear?" And by having it explicit at each stage of storage, you then have a – the marginal value of water in storage is revealed by how that changes as the level of water in storage changes.

COMMISSIONER MADDEN: So just a question on the definition of failure and also obviously the policy response, how long to wait in terms of bringing in restrictions earlier and the like or ramping up desalination production earlier which has happened in Sydney recently in terms of the policy response. How do you actually define failure in that discussion with people?

MR TAYLOR: That's a very good point. It's interesting. If you look at Melbourne's water supply system as an example, it's one I'm familiar with. The four stages of restrictions are – in total those four stages of restrictions are probably – I think the Melbourne water plan suggests that they might save up to ten, maybe 12 per cent of the current consumption, but there's no – the other 90 per cent of consumption is what I would consider to be the relevant failure, if that makes sense. The indoor use of water, the water utilities do not try and minimise and I would suggest that's probably a point to consider as like the minimum level of service you want to provide.

I mean, there are some academic estimates as to what, at a universal level, are essential for life. Water consumption is in industrialised countries. They tend to be a little bit lower than the Australian experience during the Millennium Drought and that's partly because of our more arid climate probably. But you might say the indoor water use, a large element of that reflects that catastrophic failure, and so I would describe it as catastrophic failure because once that starts to get impeding the capacity of supply, we have to start adopting very different mechanisms to be able to supply water in the urban context.

And so those different mechanisms would be highly costly, partly politically, I'm sure they're very costly but also they would be very disruptive for society.

COMMISSIONER DOOLAN: So taking the Melbourne system, and taking your point that you could trigger the augmentation on storage levels, so the storage levels are very much, to some extent, dependent on how you run the system as well.

MR TAYLOR: Yes.

COMMISSIONER DOOLAN: How hard you run that system and how you bring the desal plant (indistinct) pipe and various local supplies. So there's a system optimisation there which would – well, there's a system management that would impact on storage levels and those mechanisms of system management would all have different costs. So how are you, if you like, suggesting that we pull this together in the system's planning way that provides the best case for long term interests of customers?

MR TAYLOR: In the current project undertaking for that group of stakeholders, we're looking at what is the current cost of their existing operating rules, and so what does that existing operating rules actually imply and that's involved determining what the trigger points are for each of these stages, particularly for augmentations, and subsequent augmentations that may be required, and examining what the costs of delivering that implicit level of reliability is, under different hydrological expectations.

That's what I would say is the first step of (indistinct) processed optimising the system. Making the current operating rules explicit about what that means to deliver reliable water over a planning period, is a big step forward I suspect in terms of actually saying, "Okay, is this appropriate for the water supply system? Does it reflect the level of risk that we want to bear and does it actually reflect the value of delivering water with this given level of reliability.

COMMISSIONER MADDEN: Maybe one last question to try to crystallise impacts.

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: If we had a time machine and went back pre-drought, say go back to 2000 say, a different approach – what would actually you have done differently, just in the Melbourne context, given it's obviously what you know. I mean, this approach when you look at the planning done at the time and I know that the planning had trigger levels in it that were set and they were around reliability and supply and there were options, from Thomson was it?

COMMISSIONER DOOLAN: Yes, there we options.

COMMISSIONER MADDEN: Yes, so options all outlined within that planning framework and then it was torpedoed because the hydrology didn't imagine the three worst years ever.

COMMISSIONER DOOLAN: Spring of 2006, a nightmare.

COMMISSIONER MADDEN: So I'm just wondering what, you know, what other lessons from your work, putting back into that context – and interesting when we don't have a desal plant as well because there's places like Canberra et cetera which obviously a desal plant isn't an easy option.

MR TAYLOR: But they do have climate independent water supply options such as recycling which are, more or less – maybe there's community issues but I imagine those community issues are less than those - - -

COMMISSIONER MADDEN: Well, they're probably trading water from the Murrumbidgee would be the first. But anyway, I'm just wondering again what are the key lessons out of your work in terms of putting it into that past process?

MR TAYLOR: Well, I think that's one of the challenges is what are those extreme risks and how do you incorporate them in decision making today? I think the outcome would be to actually saying, "Okay, now that we can cost what value would actually look like" and value wouldn't, I suspect, look like us not having water, you would ask augmenting water system predictably, that's what I'd suspect a reasonable level of failure would be in the urban context.

You can actually bring those costs into the present decision and so what is the value of water at the moment or what is the value of taking alternative decisions? So one of the points you made is yes, they had all those trigger points and what have you laid out, but unless – with the hydrological risk not being explicitly costed, I think that makes it very difficult to make some of those decisions. So one of the advantages of actually making the reliability issue explicit, is that then you can look at questions like what is the planning timeframe required to build an augmentation, and so if it hadn't been four or five years, the size of the desal plant would have been substantially different, and so by bringing the timing forward by buying the option associated with augmentations, you can actually reduce the overall level of cost in the system for a given level of reliability.

COMMISSIONER DOOLAN: How do you approach situations like climate change and in particular Perth, where the external climate is changing so rapidly that it's actually very difficult to make any meaningful estimates of reliability?

MR TAYLOR: I think that's a big challenge and not one that my work is able to answer. I think it's a critical issue for the sector. What my work is saying is based on your current expectations, what is you're actually – how do you manage a system more efficiently so - - -

COMMISSIONER DOOLAN: So under current circumstances, how are we doing?

MR TAYLOR: And the most informed decision you can possibly make today, how do you manage that? And so there is an issue of like the world – the future is quantifiable, absolutely. That is challenge. We should possibly be sacrificing more goats to volcanoes.

COMMISSIONER DOOLAN: Well, it's more about how to do that with a reasonable level of uncertainty.

COMMISSIONER MADDEN: I'm just wondering with your work and how that then informs processes undertaken within the utilities and their planning and then the comments earlier about customer consultation, are there any early thoughts on your work being published first, but more importantly again in that process and customer consultations later once utilities have this part of their planning process, how often should it be updated? What kind of communication is each regulatory period that you would go through this process and actually quantify options? Is it something utilities do or again, is an overall planning for the city?

So I am just wondering, are there any kind of lessons that you can learn about modelling that system and your options and how often it has to be updated and communicated?

MR TAYLOR: Well, I think one of the advantages of actually looking at the whole system and its overall reliability, you should then make explicit the costs associated with existing options. So, for example, restrictions around accessing say the north-south pipeline in Victoria, you can actually say, "What is the overall impact to the entire system of that decision right today?" So this would be a way of actually improving the community's engagement and awareness of what the costs are of such a decision.

So to make that explicit, if you have access to the north-south pipeline today, rather than under extreme scenarios, how much that would reduce the overall costs associated with level of reliability, in terms of where should that responsibility sit, I'm not familiar enough with the jurisdictional differences to be able to give you a definitive answer. However, if you are setting a level of service obligations, surely that would be the point to actually say what they mean. You know, if you are going to have them, what does it actually mean for the community? Why do you chose that number? Is it pulled out of thin air or does it actually have some robust decision making behind them?

COMMISSIONER DOOLAN: Any further remarks you might like to make?

MR TAYLOR: No, not particularly.

COMMISSIONER DOOLAN: Okay. Thank you very much. So we might take early morning tea, and we come back with Australian WaterSecure Innovations and if Lucia is not here, perhaps given that you are here Ben, we could swap those. So why don't we take – Rick is it okay if we slightly depart from the agenda. Take 15 minutes now. Have morning tea and then come back and perhaps have Ben afterwards. Thank you.

ADJOURNED

[10.23 am]

RESUMED

[10.50 am]

COMMISSIONER DOOLAN: All right, so we'll reconvene, and I would like to introduce Ben Furmage from the Cooperative Research Centre for Water Sensitive Cities. Ben would you mind introducing yourself again for the benefit of the tape?

MR FURMAGE: Sure. My name is Ben Furmage. I'm the Acting CEO of the Cooperative Research Centre for Water Sensitive Cities. Happy for me to launch in to a couple of opening comments?

COMMISSIONER DOOLAN: Please.

MR FURMAGE: Okay, great. So thank you for the opportunity to appear before the hearing today. This is a really important process not only for the CRC but more generally for the country. The CRC strongly supports many of the recommendations including in the draft recommendations. In particular, we do strongly support the idea of renewed national agenda for water reform, particularly in the urban sector and there have been some significant gains made in the past through a national approach and it's really important that those gains are locked in and built upon.

As I noted, many of the recommendations from an urban perspective are important and valid. We think, though, that as well as locking in a suite of reforms that had their origins in the mid-90s, I think it's also important to build on those reforms to create a platform for the next wave of reform.

In particular, in thinking about the urban sector, I think it'll be really important to not lose focus on water quality. It will be important to take a water cycle approach rather than just thinking about linear water and sewerage services. As well as responding to drought, it will be important to respond to all the impacts of climate change, including flooding and extreme temperatures, and the water sector has a key role to play in both of those two things, for example.

Also it will be really important that the next wave of reform recognises the critical role of good science and effective community engagement in creating a need for reform, and to make sure that all options are on the table and in sustaining reform efforts because, as the Commission knows, reform often involves costs that are concentrated and upfront and the benefits can be diffuse and longer term. So that effective engagement is going to be very important, and certainly the next wave of reform should continue to remove the barriers to integrated water management.

I would like to just touch on each of those briefly, but first a little bit of background on the CRC and why we would like to contribute to this process. The CRC for Water Sensitive Cities was created in 2012 recognising the critical role that water plays in ensuring that our cities are productive, resilient, efficient and sustainable, and in particular that the challenges that we've got going ahead around issues like growing populations, the changing climate, affordability concerns, how do we sort of make sure that we respond to those challenges that also maintain the amenity and liveability and productivity of our cities.

The CRC represents 84 different organisations across the country and around the world, including state, local and Federal government, water agencies and universities, and private sector entities as well. The timing of the PC's review is great. We're just finishing our first tranche of research, which has seen \$34m invested over five years, involving over 300 researchers from across 20 different disciplines looking at four basic areas of reform: the role of community in reform for water sensitive cities; the role of the environment in water sensitive cities; the role of technology in water sensitive cities; and how do you bring all of that together in effective reform transition pathways.

So we have learnt a lot through that first tranche of reform, including some things that are going well and some things that could be improved, and we're just about to kick or we've kicked off our second wave, and that built on an 18-month engagement process, asking our members, "What are the key issues for you in driving reform?", and they came back with a relatively short list.

In particular, they were looking for continued support for making that practical transition, putting the knowledge into practice. They were saying that an economic evaluation framework was a really important enabler of better investment decisions that bring in a fuller suite of costs and benefits. They were saying that it's important to make sure that not only does a water sensitive city work at one level of planning, but it needs to work at all levels at different scales,

and also too in field development was an area requiring greater attention, as was groundwater developments in areas of higher ground water which was particularly an issue in WA.

So we've just kicked off that second wave of reform or second wave of research, sorry, but there's a lot of overlap in the things that are coming up in the draft decision or draft recommendation. In particular, though, just to highlight our support of a couple of things: continued expansion and carriage of economic regulations, really important to lock that in; better integration of urban and water planning is really supported; as is an outcome-based approach to environmental regulation; removing policy barriers; and keeping all options on the table when we're balancing supply and demand.

And also too, we also support the balanced consideration of centralised and decentralised options which is talked about in Chapter 6 of the draft report, and continuing to move prices that sort of fall within that band of, that band of efficient level of cost recovery.

So that being said, so there's a lot to recommend in the draft. There are a couple of areas that we would suggest could require some further focus. In particular, a greater recognition of the critical role that public health and water quality have in the urban sector. It was a fundamental reason for the creation of the urban water sector and needs - and we lessen that focus at our peril, and in that - the challenges associated with water quality will increase as the climate changes and our cities become more densely populated. So it's really important that we keep that focus on good quality water, as well as maintaining the quantity of water through good supply and demand balances.

Also, too, it's important to recognise that water contribution that the water sector plays in public health in our cities, so making sure that our cities are healthy and safe both when there's too much water in flooding and when there's not enough in drought, and recognising the critical role that water plays in maintaining productive green, open spaces and healthy waterways, and the important contribution that those two things have to our cities. They are not only liveable, but they're healthy.

I have touched on this briefly as well. Another important focus is that the current report focuses rightly on the potential impact of drought and being ready for when there's not enough water. It is also important that the water sector works just as well when there's too much, so when - so, you know, we have a balanced consideration, flooding, which I think the insurance sectors shows is the most expensive natural hazard that we're dealing with, and that will only increase as climate changes, and those costs will go up as the population density increases, and similarly with extreme heat. There is evidence to suggest that that's our most deadly hazard going forward, and as climate changes and those heat days become more intense, water has a really important role in making sure that our cities are liveable and that we manage issues like the urban heat island effect.

Another point would be that it is mentioned, but I'd just like to emphasise that a future reform agenda really needs to have a strong focus on community engagement and good science so that our regulatory frameworks are based on both those things, good science and effective community engagement.

We support the focus that's taken on outcome-based environmental regulation and we'd suggest that that's a really good principle to apply to our other forms of regulation in terms of the health and the economic, and there's examples of that, sort of, starting to play out.

And finally, in terms of prices, certainly support getting to levels of cost recovery. I would also note that the structure of prices has a really important role to play, as do things like the way that they're billed; the extra information that consumers get to support good, efficient responses to good price signals, but that good price signals also need to go hand in hand with improved customer choice and effective support for customers that are vulnerable or in crisis.

And the last point that I will make is that in coming back to the support that we have provided for a national agenda, I think the draft notes that there are strong merits in terms of having a consistent approach across the country, particularly when you're dealing with issues that don't respect state borders, and that there's benefit in having a reform program that is inclusive that its objectives are clear and measurable that provides flexibility to respond to tailored solutions to the individual jurisdictional circumstances and promotes collaboration when reforms can be quite challenging.

The CRC would also suggest that those same principles that imply the benefits of a national approach also would apply to an international approach in dealing with global issues like climate change and population growth, and would point to the Sustainable Development Goals [SDGs] as providing, which Australia has signed up to, and is providing a great mechanism for, and a cross-check, I guess, for a future reform program to make sure that that program addresses all the relevant considerations.

And with those remarks, I'm happy to take any questions.

COMMISSIONER MADDEN: I guess I'll start with one, and which is around the economic evaluation framework. So we mentioned flooding and extreme temperatures and the like, and other benefits. Having done work in those in the past there are economic frameworks that deal very well with those benefits of flood control and effects on extreme heat and deaths and, you know, again, early work and all the climate change work with CSIRO that started those.

I just wonder, why is it so difficult to actually apply an economic framework to a project that purports to have those benefits, and what actually needs to change and be established to enable those other consideration of benefits?

MR FURMAGE: So if there's a range of things that need to change, including, and I guess you can take a step all the way back to clarity around policy objectives, so what problem are you trying to solve here, and therefore what - and then having an open discussion about what are the suite of options that need to be the response to that problem.

And then once you start to move into, well, what are the costs and benefits associated with different options, in the past it has been difficult because either the underlying understanding of the physical processes or the ability to turn those processes into a dollar value has been challenging and there are methods that are available to do that, but quite often we've seen traditional cost benefit assessments supplemented with multi-criteria analyses and those sorts of things.

And when that's been put in front of the decision-maker, be it a treasury and economic regulator, sometimes the veracity of that analysis hasn't been accepted, and I think the work that the CRC has done, where pulled together a review of those different methods, not only for quantifying some of these broader benefits that you talked about like the amenity value of healthy waterways, like the health impacts of extreme heat and the urban heat island effect, what data is out there, and then how do you turn that into a useful tool that can be consistently applied across different jurisdictions in a way that is acceptable to the decision-maker.

So I think that there are examples of where different approaches have been successfully applied. It is not mainstream, and certainly to be able to get a vision of a water sensitive city realised, I think the tools that the CRC are working on, together with the engagement that we're doing with treasuries, with regulators and with water authorities and local governments, will help not only build the technical capacity, but the trust in the process that we go through to be able to see maybe different choices made around investment in the future.

COMMISSIONER DOOLAN: So just following that up, I mean, it's good to have those perhaps more quantitative or semi-quantitative estimates of the benefits of any identification of those, you still end up having to identify the beneficiaries and who should pay, so it's one thing to have that laid out which makes it clearer what the benefits are, and maybe how comparable they might be, but then you've still got to allocate the benefits, and then what follows the allocation of benefits is the cross-sharing as well, and that's still going to be slightly problematic, isn't it? I mean, there's no magic formula.

The health benefits of green space presumably get targeted to the Health Department, Health Minister, who then have to move into a whole preventative - you know, it's a - for them, that raises probably slightly difficult internal debates about where their money's best spent, but I mean, you can't avoid that discussion, and it still might be the government going, "Oh, well, for the broader public benefits, you know, we have a role or we don't".

So the tools that you're developing still provide greater clarity and perhaps comparability, but some of those, because once again this is between boundaries of portfolios and disciplines, it doesn't take away, does it, some of the conversations that still have to occur about who pays?

MR FURMAGE: Yeah, absolutely, and part of - part of the issue is where does the conversation start, and if it starts with, "Who pays?", or arguing - taking a positional approach about particular solutions, then it's, you know, you get what you get basically, but other research that the CRC has done has shown that if you bring those parties together and try and get some alignment about, "Where are you now?", "Where do you want to be?", and get that sort of shared vision, the work that we did in Program A and that will be done through our integrated research program, our first integrated research program, is taking real life examples of Perth and Bendigo and Sydney and in Queensland around, how do you bring those different parties together.

We have developed an indexing tool that sort of shows where your particular city is at relative to other cities to identify how you're travelling and where the gaps are, and then, you know, you - and it's - - -

COMMISSIONER MADDEN: Sorry, against what?

MR FURMAGE: Against what? A liveable, what a water sensitive city might look like. So across a range of - across a range of criteria, so I guess the important thing - - -

COMMISSIONER MADDEN: So levels of green space and things like this?

MR FURMAGE: Yes.

COMMISSIONER MADDEN: What are some of the indicators that you're talking about?

MR FURMAGE: Yes, indeed, I mean, it's quite comprehensive, but it does look at everything from open space to water consumption to how your sewerage system works to how effectively are you looking after your waterways, and it gives you a picture on whether or not - where you sit on a spectrum of, are you just providing safe water, or just safe water and sewerage, or just safe water and sewerage and drainage, or are you moving into thinking about your waterways as well, or are you doing all of that in the context of thinking about how the cities manage so you're getting better integration with your roads; better integration with your energy networks, your hardware solutions. So it will map where you sit, where you are; get a shared understanding across those different stakeholders that you were talking about; get some prioritisation of the high level issues and then you can start working through what are the full suite of options.

Use a good process for getting those benefits and costs identified, and then once you've agreed - you've got alignment of purpose and collaborative planning. Then you get into accountability for delivery. So coming out of this needs to be an action plan with some jobs for people, and then you can have a conversation about, well, where does the money come from, because quite often the most efficient way of raising the money may not be with the people that are doing work.

And so you might use, for example, a water authority may use its revenue collecting, existing revenue collecting capacity, but it may - the service may actually be delivered by a local government, so, yeah.

COMMISSIONER DOOLAN: Just, you reminded us of the critical role of public health and water quality, and you feel that currently we've probably taken that for granted in the report?

MR FURMAGE: M'hmm.

COMMISSIONER DOOLAN: That we should give a greater emphasis to it in the backsliding, sort of, don't backslide on this as well?

MR FURMAGE: Yes, I think, that's right. I mean, there was a question of an earlier speaker around what are the game changers, and I think there are some great positive game changers, but equally if the industry drops the ball on water quality then that will take any reform endeavours back significantly.

COMMISSIONER DOOLAN: Yes, okay.

MR FURMAGE: So, yes, I think it's really important.

COMMISSIONER DOOLAN: Okay.

COMMISSIONER MADDEN: So I'll just have a bit of a follow-up then. What water quality threats do we have? Are we talking particularly in run-off in waterways or are you talking threats to drinking water in certain recycled systems? I'm just trying to get a bit more of a handle on the actual threats that are emerging on water quality.

MR FURMAGE: Yes, great, and I guess my point was that there are a range of threats that are emerging and that we need to keep a focus on that in thinking about a good regulatory framework that is well integrated with both environment and the pricing side of things.

So one suggestion would be making sure that when we're thinking about things like recycled water, is it a public health issue; is it an environmental issue; and how does that all play out with the economic regulator.

But looking forward, you can see that with extreme events coming as a result of climate change; managing our catchments in more highly urbanised areas with more industry or more impervious area. For example, the last time Melbourne had a boil water notice it was up in the Yarra townships in 2007 and that was a result of 2006 which was mentioned earlier, and a storm coming through and washing - impacting the turbidity of the water.

So, you know, these sorts of events can happen, and that we need to make sure that we not only take care of what we know, but we're also doing good research and making sure that that science is identifying emerging issues, chemicals finding their way into our drinking water so that we're managing those risks proactively.

And in terms of an outcome based approach, I think there is a trend in - and I don't profess to be an expert, but I think there is a trend in work quality like we see in an environment and thinking more about the outcome that we're managing, public health, and less about compliance with an individual standard.

So moving from continuing E. coli to thinking about what water quality outcome that we want for the community and what's the public health outcome, and having not only reactive regulatory managers, but a stronger suite of proactive measures that help, you know, that provide that more balanced approach to managing the risk.

COMMISSIONER DOOLAN: So despite the, let's be really clear, a failure in water quality would set the industry back significantly, you know, so, we can't fail. Do you still think there is scope for a more outcomes based approach to drinking water quality or to health standards?

MR FURMAGE: Yes. Yes, definitely. Yes, and - but also too, not just in terms of the quality of the drinking water, but also thinking about the impact that the broader, important role that, what the water sector plays in things like maintaining public open space and recognising the importance of that open space in maintaining the health of a more densely populated, highly urbanised city.

COMMISSIONER DOOLAN: Okay, and currently that would not be in any of our health regulations?

MR FURMAGE: I - yes, it varies, as you know, around the country, and I think what's there is probably more enabling rather than directive.

COMMISSIONER DOOLAN: Yes, okay. All right.

MR FURMAGE: And, sorry, just to follow up on that one, Jane.

COMMISSIONER DOOLAN: Yes, sure.

MR FURMAGE: And when you don't have that clear expectation set out in policy and regulation, because you need both, you know, open regulation needs some clarity around policy objectives, it makes it hard for economic regulators to come in and assess whether or not the expenditure that's been proposed and the impact that it's going to have on customers is actually a reasonable thing. So there are ripple effects associated with that.

COMMISSIONER DOOLAN: In some of the systems that you've seen, particularly work overseas, I mean, you will have heard the earlier discussion around integrated water cycle management and planning suburbs, its interaction with local government and statutory planning system and making that all work. Have you seen anything where actually some of those outcomes are set at the outset by a city shaping authority so that they're, if you like, set at the outset, a number of those aspects that you've talked about which has then flowed down to the detailed, or the more detailed planning by the sectors?

MR FURMAGE: You mean internationally?

COMMISSIONER DOOLAN: Or anywhere really.

MR FURMAGE: Yes. Yes, so there are examples of places like Singapore, for example, and there's some places in Europe but I think the key thing with those - those sorts of situations is when you've got that clarity of good engagement at local and - sorry, start again. When that works well, it works well at different scales, so you need to have good engagement at the local level, so for example the concept of liveability is locally defined.

So what's - what creates liveability in the west of Melbourne where there's a rain shadow and arguably there's not enough water is different to what - to the south-east where there's too much because they have - they have flooding issues. So you need that good local application of knowledge, and with local governments you get engagement around, better engagement around drainage and roads and hard waste management and those sorts of things, and open space.

But equally there also needs to be a stewarded catchment that makes sure that what decisions that are made upstream, for example, don't have negative downstream impacts. So when - so that top down approach that you alluded to is important, but it also needs to be married effectively with bottom up process.

The IWN forums that have been proposed, Melbourne is - for Victoria is an example of an attempt that that, and you know, the early signs are good, so, yes, so I think it can be possible but it needs to be a top down and bottom up.

COMMISSIONER DOOLAN: Okay. I might just do one more question if that's okay.

MR FURMAGE: Sure.

COMMISSIONER MADDEN: I have one more as well.

COMMISSIONER DOOLAN: You have one more too?

COMMISSIONER MADDEN: It's short, so.

COMMISSIONER DOOLAN: You referred to the Sustainable Development Goals. I suppose from our perspective, alignment with those goals makes perfect sense, but the governments that are signing, or we're making recommendations to governments about, recommendations to do things better or recommendations to collaboratively act together to have a new NWI.

So when they try to make it clear the costs and benefits to those governments, of those, meeting those recommendations, so governments in themselves, it's a tricky one. The alignment to an international sense takes away some of the accountability for governments. How do you see playing that international space sit alongside the state governments' accountabilities to their jurisdictions and their communities under the Constitution effectively?

MR FURMAGE: I guess for me, reform is uncomfortable and involves costs and so how do you get the maximum impact as a result of that reform initiative? So I would - yes, so I think part of the solution of that is to talk to the communities and make sure that they see that line of sight between the change that's happening local, how that, you know, thinking local and acting global and how they have, sort of, impacts more - more broadly, and the Commission's terms of reference talks about thinking about not only the water sector but the interface with other sectors like energy, et cetera, and so do the SDGs.

So, you know, it provides a useful way of thinking about how do you provide a holistic response to some pretty complicated issues that don't respect local national and, you know, in the international boundaries. So I think it's a - you know, it will be up to the Commission to adopt it as they see fit, but just in terms of a useful framework for thinking about how do you provide an effective response to key challenges mentioned in the draft report like population growth, climate change and doing all of that in a way that maintains affordability for households and businesses, it provides a useful cross-check, I guess.

COMMISSIONER DOOLAN: Okay, John?

COMMISSIONER MADDEN: Mine was in this area and it's maybe about the mechanics of the process, is there a reporting on behalf of the Australian Government as part of this signing up to the goals? Do they report back against the goals - - -

MR FURMAGE: Yes, well, I think there's reporting - - -

COMMISSIONER MADDEN: - - - and their progress and I think, is it SDG6?

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: I mean, how are we tracking, do you know? Has anyone actually assessed - - -

MR FURMAGE: Yes, great question, and so progress, it's a UN initiative so it's being tracked through the UN. I flagged earlier that we'd come up with an indexing tool that tracked progress on that spectrum towards a water sensitive city. We've currently got a project going that will also track progress against the Sustainable Development Goals, and you know, Australia - - -

COMMISSIONER MADDEN: Sorry, as a nation, or of cities?

MR FURMAGE: Both.

COMMISSIONER MADDEN: Both.

MR FURMAGE: And as a local area potentially as well, and I mean, it depends on where you draw the boundary, I guess. There's examples, like any reform initiative there's bell curve and there are some areas where different jurisdictions are really pushing ahead but there are other areas where there are laggards, and so, and that's a point that's made in the draft report, and I think we need a process going forward that helps encourage the laggards to finish off the reform program started in the mid-90s, but also authorises and enables those that are already embarking on the next wave of reforms that will set us up as a - to be successful as a community, not only now but you know, 2030 and beyond.

COMMISSIONER MADDEN: Sorry, just to clarify, is that call part of an official reporting process against these goals from the government or is that something that you're looking at to use locally?

MR FURMAGE: Yes, so it's still being developed. It's available to all the participants in the CRC and they include, you know, state and Commonwealth governments, but - and also too, I think it'll be important that whatever - however we track progress going forward, there needs to be ongoing advocacy around reform. Periodic assessments of how we're going are important, but how do you maintain the momentum, day to day, week to week, and how do you make sure that the learnings from reforms initiatives, because there was a comment made earlier that good things are happening but they're a bit patchy and they're pilots. Well, how do we mainstream this? I think there's an important process for a body to be able to continue to advocate for that change and to foster knowledge development and translation.

COMMISSIONER MADDEN: Thank you.

COMMISSIONER DOOLAN: Okay, all right.

MR FURMAGE: Great. Okay.

COMMISSIONER DOOLAN: Thanks, Ben.

MR FURMAGE: Thanks.

COMMISSIONER DOOLAN: I would now like to welcome Lucia Cade from the Australian WaterSecure Innovations. Lucia, would you mind just introducing yourself for the transcript.

MS CADE: My name is Lucia Cade. I am the Chair of Australian WaterSecure Innovations. I haven't put in a written submission yet, so if, in terms of process I thought what I would do is just talk through. It's really a story that I want to tell you about national collaboration that has happened over the last six and a half years to align regulatory requirements on water treatment technology, and how that has been achieved and what the benefits have been in the process and what has contributed to the success of it.

So in terms of you know, a bit of background on me so that you understand the context of my input, I've worked nationally and internationally across the water sector in - nationally in Australia for about the last 15 years as President and Director of the Australian Water Association, and in working - and for the last, since 2005 on Victorian Government water boards, and have worked in the private sector as an advisor. So I've seen the industry from a lot of sides, and part of the story that I want to say is the benefits that having a nationally consistent approach to this particular regulation provides to the whole value chain of the sector. I figure the easiest way to do it is to, sort of, tell you a story.

Now, Australian WaterSecure Innovations was established as an independent, not-for-profit, industry-owned and supported entity out of the former Centre of Excellence that was Commonwealth funded, the Australian Water Recycling Centre of Excellence, and they created a number of programs that they - there was no ready home for them in Australia that provided national - that provided, you know, a sort of a nationally relevant home that allowed these programs that had had so much money invested in them and were agreed to be so successful, there was nowhere for them to sit.

So Australian WaterSecure Innovations was established for that, and our job was to finish the development of the programs, and we've spent 18 months doing that, and one of them is the WaterVal, which is validation framework that the industry felt there was a need for having technology validated and approved the same way around the country, and Suzie Sarkis is in the audience and she's been heavily involved from the regulator side in how that happened.

So the situation was that there were different regulations across every jurisdiction in Australia, and so any supplier of technology had to demonstrate the efficacy of that technology in a different way in different places around the country. That had a two-fold impact on cost. It had an impact on the upfront establishment costs, and it had an impact on, you know, the ongoing, proving that the system was still valid. So they had to maintain different systems in different parts of the country for the same, what was effectively the same technology doing the same thing.

The improvement was also then in having all of the state regulators agreeing on a single proof mechanism was that it, you know, it reduced the time to validate, and this impacted on the time taken for whole new schemes, and that was of benefit to both the utilities receiving them; the communities because they got their schemes earlier; the regulator's reduced risk; and suppliers themselves. It reduced costs which were then translated so it was a whole red-tape alignment, if you like.

So overall the benefits have been that we've got now streamlined national regulation for validation of water and wastewater treatment technology that leads to reduced costs for suppliers to the industry, for regulators, and you know, therefore for utilities and communities

who ultimately foot the bill. You know, we've got the body of Australian water quality regulators who, you know, together guide what the protocols are. You know, it is sourced from them, and it reduces the risk for utilities in the uptake of technology because the risk of adopting something new is reduced because everybody has agreed, already pre-agreed how that effectiveness will be measured.

Internationally the World Health Organisation is adopting this approach to validation globally, and in the United States there's an approving an adoption of this approach in California with the 48 schemes that they have in planning, and they recognise that it helps them get through the regulation and validation of the 48 schemes they've got to combat their drought.

So overall the benefits were there to meet an industry identified need, and the Water Recycling Centre of Excellence and then WaterSecure Innovations was able to coordinate the industry to meet that need, and I guess the point of my story is to demonstrate the value to all the different players of having that nationally coordinated approach, and to also point out that that just doesn't happen, and the fact that there was no entity in Australia who could house or be the home of this validation and certification approach means that, you know, without having some entity to drive that coordination and deliver the value it's just not going to happen. It needed the goodwill of everyone, and some fund entity to then turn that goodwill into action, and that's, you know, really that's my main point.

So I think that the last thing I want to finish with is what I think are the most important keys to the success of that alignment of regulation, and that was that it was voluntary but coordinated, and a focus on coordinating and accommodating every state and territory need in arriving at the outcome.

So if you like it was a carrot, not a stick approach to the coordination, and it follows that that principle that, you know, let's see how far we can get with coordination and collaboration, and then regulate and legislate for, you know, the bits that can't happen together so, and importantly you need some kind of nationally coordinated or nationally home entity to do it and it has to be funded.

So that's my story.

COMMISSIONER MADDEN: Thank you.

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: Just for my sake, how many recycling systems do we have across Australia that are providing drinking water? So in terms of this system - - -

MS CADE: Yes, sorry, it's not - the Water Recycling Centre of Excellence started, you know, trying to address the yuk factor of indirect potable recycling in Australia, and that is just - that is no one's policy position in Australia except WA, and so the most important transition was broadening that validation to water treatment processes, so wastewater for any purpose in the east coast other than drinking - - -

COMMISSIONER MADDEN: So the validation covers all those?

MS CADE: Yes.

COMMISSIONER MADDEN: Yes, that's fine. I'm just trying to get some more knowledge of it for myself.

MS CADE: And so it works for, the protocols, there are five technologies. Some are wastewater and then there's ozone and chlorination, and so they're technologies that are used in the water treatment process on the water supply side and the wastewater treatment side.

COMMISSIONER MADDEN: Yes, so you can bring new technologies into this framework?

MS CADE: Yes.

COMMISSIONER MADDEN: As they come on. Yes.

MS CADE: Yes, and that group of health regulators guides which of the new technologies they want to run through the next stage of protocols.

COMMISSIONER MADDEN: Yes. So I guess there are a couple of circumstances like this. I assume the drinking water quality standards themselves have that national approach.

MS CADE: Yes.

COMMISSIONER MADDEN: Are there a range of other outstanding issues that have the same problem in terms of the differing standards between states?

MS CADE: Yes, I think they're - I don't have the list of them.

COMMISSIONER MADDEN: Let's focus on recycling, I guess, yes.

MS CADE: Yes, I was just - really, I just wanted to share this story of the benefit in this area of the coordination and what it takes for it to happen, and how you can set it up for success and the benefits that different players in the industry have seen from the red tape reduction, the reduction in risk and speed.

COMMISSIONER MADDEN: Yes. I'm only trying to raise that because we've seen how much scope there is for other issues, and also how people come together around identified need. Now, obviously this one came out of previous research and work and then evolved into WaterSecure Innovations, taking a role with the states. I guess looking at it and what's effective, is it something like that that pulls the states together? Can the states do this themselves in other areas? I'm just wondering, kind of, institutionally in - from how people work together, and I'm even thinking of economic regulation because we're talking about that in other areas of how you get not necessarily consistency but best practice in areas and how states work. Is there anything that you can generalise, I guess, out of what you've seen?

MS CADE: Yes, so let me just add one more specific and then I will generalise a little bit.

COMMISSIONER MADDEN: As far as you can.

MS CADE: A little. In terms of how the ongoing coordinated regulation in health themselves are looking now at trying to raise some money to do a piece of investigative work on how the validation protocols leading to a, you know, certification might be, you know, what are the options for, you know, further policy development to embed this process. So it's still very much at the early - at the early stage, but they definitely, you know, see the value in trying to systematise it in a policy sense to get it embedded so it's not lost.

COMMISSIONER MADDEN: Yes.

MS CADE: So this is, it's come from the Centre of Excellence, it's been continued with the seed funding for WaterSecure Innovations, and now how do we make sure that it continues down that useful path and doesn't, you know, fade away due to lack of focus, money and coordination.

COMMISSIONER DOOLAN: It seems other - - -

MS CADE: Yes, sorry. And then, sorry, generalising on the other areas, you know, you'd have to think of, in, you know, the environmental regulation that the water industry faces, a lot of that is, you know, different in different states, and the value of coordination for utilities comes from, you know, sharing knowledge, so you've then got - if regulation is done in a similar way or in an aligned way across the states and territories, then they can share that knowledge and so there's efficiencies in that, and in the private sector that provides the services they get, you know, they have to jump through the same hoops.

COMMISSIONER MADDEN: Yes. Yes.

MS CADE: And so it levels, it levels the value to the environment and how we, you know, how we protect it around the place.

COMMISSIONER MADDEN: Yes.

MS CADE: So that's another one where regulation is different. Clearly economic regulation is different around the country, but that has - that has quite - that has quite different characteristics to health and environment.

COMMISSIONER DOOLAN: So really you've pointed out, in jurisdictions there's the health and environment regulators and the policy department in the industry, and the industry can often go to the policy department to integrate with the regulators who can go there directly, but once you're in the national sphere there's nowhere to coalesce this. The industry, even if it itself is sort of speaking with one voice, it finds it hard to actually sort of either get policy department operating or to coalesce the regulators that they need, and so this has been one model that has worked.

MS CADE: Yes.

COMMISSIONER DOOLAN: But your point is, there's opportunities for this there's benefits to it, and it's really hard to do in the absence of some arrangement.

MS CADE: Yes.

COMMISSIONER DOOLAN: And in this case it was industry led?

MS CADE: In this case it was centre - yes, it was - well, it was Centre of Excellence led in response to an industry need.

COMMISSIONER DOOLAN: Yes.

MS CADE: And it was the fact that we had a Commonwealth funded Centre of Excellence that had five years and funding.

COMMISSIONER DOOLAN: So a significant amount of money to actually take the next step and do something with it.

MS CADE: Yes.

COMMISSIONER DOOLAN: Okay.

MS CADE: And the expertise.

COMMISSIONER DOOLAN: Yes, okay, and they did not find it difficult to get the health regulators - - -

MS CADE: It took five years.

COMMISSIONER DOOLAN: Okay.

MS CADE: Six years.

COMMISSIONER DOOLAN: Okay, to sort of get enough interest.

MS CADE: It's new.

COMMISSIONER DOOLAN: Yes.

MS CADE: And it was coming to an agreement, and it's not that - it's not that the regulators, it's not the whole scheme, it's the elements of it, so that, you know, the way that a log reduction for bugs is demonstrated, is proved. You know, it's alignment of the, we will all do the, prove it for this little bit in the same way, and so you don't have to, you know, prove it with protocol 8.2 in Victoria and protocol, you know, B.6 in Queensland, and keep 8.2 and B.6 both running.

COMMISSIONER DOOLAN: Yes.

COMMISSIONER MADDEN: Yes.

MS CADE: Yes, with the - - -

COMMISSIONER DOOLAN: Yes, okay.

MS CADE: Yes, but it does take, you know, an entity that's got the focus, the time to identify the need to, you know, get everybody to collaborate the process of agreeing, you know, coming

up with the right, you know, the right framework, and you know, and then working through the examples and testing them and so it really does need expertise, focus, money and some - something central to coordinate it.

COMMISSIONER DOOLAN: But the benefits are significant reduced costs - - -

MS CADE: Yes.

COMMISSIONER DOOLAN: - - - to developers or to - - -

MS CADE: To proponents.

COMMISSIONER DOOLAN: To proponents which pass on to the community.

MS CADE: So just suppliers and to utilities.

COMMISSIONER DOOLAN: And to utilities. Reduced approval times for everything, access to better technology. So overall this can quantify or at least identify, and certainly quantify the benefits of the consistent approach to regulation in this case.

MS CADE: Yes.

COMMISSIONER DOOLAN: Okay. We may follow up - - -

MS CADE: The story, okay.

COMMISSIONER DOOLAN: Good. Well, thank you, Lucia.

MS CADE: Thank you.

COMMISSIONER DOOLAN: Our next speaker actually will arrive at noon, so we'll have another cup of tea. Okay, thank you.

ADJOURNED [11.38 am]

RESUMED [12.20 pm]

COMMISSIONER DOOLAN: I'd like to welcome Alistair Watson. Alistair, could you introduce yourself for the transcript.

MR WATSON: My name is Alistair Watson. I'm a freelance economist based in Melbourne.

COMMISSIONER DOOLAN: Okay. Can we hear your initial thoughts, - - -

MR WATSON: Yes.

COMMISSIONER DOOLAN: And then we'll have a discussion.

MR WATSON: Thank you for the opportunity to contribute to this public hearing that follows release of the draft report. I will make a few brief remarks by way of introduction and try to answer any questions that arise from the notes that I've already forwarded.

Firstly, the history of irrigation in Australia is unfortunate. Although irrigation and water per se cannot be considered independently of other factors like settlement policy, commodity markets and technology. I think until recently urban water should have been considered a success story. Recovering from the consequences of the chequered history of irrigation is not straightforward. The economics of water and the economics of the environment are conceptually difficult and controversial because they involve vexed questions surrounding the way time, uncertainty and capital should be handled. The politics of water are also difficult with several sources of conflict creating serious challenges in public administration. The politics are not only difficult, they're presently poisonous and they are becoming more so.

COMMISSIONER DOOLAN: Okay. Specifically, can you take us into places where you feel national policy has been successful and where it's, if you like, either not warranted or has been a failure.

MR WATSON: Well, I think for many years there was a degree of successful cooperation between the states within the Murray-Darling Basin, but I think in recent years it hasn't been as successful because I think the dead hand of planning, the belief that a prescriptive plan was required has resulted in an approach which hasn't been particularly fruitful. And in particular, as I think is highlighted in the draft report, I think the Commonwealth and the State Government to a large extent, their expenditure on irrigation infrastructure has been misplaced, both in public finance terms and also in terms of the problem that it was supposed to solve.

COMMISSIONER MADDEN: What do you mean by the second part of that?

MR WATSON: I am actually very deaf and I didn't actually catch that.

COMMISSIONER MADDEN: Sorry. What do you mean by the second part of that?

MR WATSON: The?

COMMISSIONER MADDEN: The second part of the statement, in terms of not achieving their goal.

MR WATSON: The second part of the statement that I gave you?

COMMISSIONER MADDEN: No, just your response - no, just your response then. You said irrigation - investment in irrigation infrastructure has not been warranted. I can understand the issues and the Productivity Commission have made statements around that previously, as opposed to using the market.

MR WATSON: Yeah.

COMMISSIONER MADDEN: I just want to explore your comment then about - I assume the water that's been sourced from those investments and then its use, is that what you're commenting on?

MR WATSON: Well, I mean they're things to do with - of economic efficiency and equity surrounding infrastructure investments, and it's clearly inequitable to treat one part of the agricultural community completely differently to the - to dryland farming with respect to their capital equipment. It's also the case that - the water saving case is extremely weak. I think that's pretty well settled in the professional literature on the topic. Also I think because there are no clear criteria, especially for selecting between on-farm investments, I think the policy leads inevitably to unreasonable treatment of some regions vis a vis other regions. So it's just - readily descends into politicisation of decision making and very large sums of money are involved.

COMMISSIONER DOOLAN: So just on that, I mean you mentioned the word "public administration" and if you look back over the history, this kind of poor investment has been going on for a long, long time. The NWI I see as an attempt to bring rigour to these processes. Now, how successful that's been, you know, is an open question.

MR WATSON: Yeah.

COMMISSIONER MADDEN: What other vehicles have you seen in your career that actually could either aid and abet the NWI, or actually assist there?

MR WATSON: I think there was a brief period from the 1970s and 1980s, I guess at the time when water scarcity really emerged, when it seemed to be recognised widely that the so-called mature water economy and that changes needed to be made. And changes to pricing were made. Changes to institutional arrangements were made, in different ways in different states but there was the separation of the operational activities and irrigation from the policy aspect. But I think that basically that was sort of caught out by a combination of factors. Probably mainly the drought which, you know, produced a sort of degree of panic in many areas, and also I guess the - a - well, what I regard as a sort of change in the sort of philosophical approach within government agencies away from treating long period - long-term problems as long-term problems and attempting to find long-term solutions to those problems too.

The year of the stunt and the - I think (indistinct) within the space of ten years, COAG water reforms, the NWI, the Murray-Darling Plan, and the notion seems to be that you can solve really difficult problems through rejigging bureaucracies in various sorts of ways; so moving away from discipline-based approaches to problems to what I regard as flimflam and stunts.

COMMISSIONER DOOLAN: Would you say that the COAG and NWI, which NWI did continue many of the directions of COAG and extend them, would you agree that that perhaps provided the long-term roadmap - and I see the Basin Plan is a more immediate solution thrown in on the top. Would you view it that way, or how would you see where the long-term solutions were articulated?

MR WATSON: No one can accuse me of being an optimist.

COMMISSIONER DOOLAN: No, that - I know that to be true Alistair but nevertheless, reflecting back, would you say any of those policy directions have been useful?

MR WATSON: Oh yeah, look they have. That's right, yeah. Lots of parts of them have been successful. That's not to say a lot of those things were in train and it's - there is a sense in (indistinct), I point out in the fuller version of the notes, that having agreements between jurisdictions does help a single jurisdiction solve an intractable internal problem, and that's the case in multi-lateral trade, and that is - you know, can lead to really positive outcomes. But it - I think we'd have to agree that the record's pretty mixed.

COMMISSIONER DOOLAN: Okay. So do you think there's a case for continuing with some form of NWI?

MR WATSON: I don't think there's a particularly strong case. I've never thought, and I've written about this previously, I've never thought that urban water ever should've been included in the National Water Agreement because the differences between the states are so gross. And also there was not much evidence that the situation was being handled all that badly anyway. There might have been a fair degree of cost padding in the water authorities and - but, you know, I've been in plenty of places where you can't drink the water and it's been a great thing about living here is you can. So we have a safe water supply, augmented as required, so I - and presumably that just wasn't the water authorities themselves. There must have been degrees of supervision through government departments, health authorities, the central agencies. I think actually I would argue that to some extent having a national agreement when you don't want one allows - well, it discourages the central agencies from taking much interest anyway because they're virtually marginalised by the Commonwealth-imposed bureaucracy and - so I think that - I don't think then urban water should have been part of it, so I hardly think it should be part of anything that's ongoing.

COMMISSIONER DOOLAN: And you don't feel - well, I mean with population growth and particularly in the cities, that the cities become in the national interest, and how a city is functioning is in the national interest?

MR WATSON: Well, not all Australian cities are growing at the same rate.

COMMISSIONER DOOLAN: True.

MR WATSON: And it's a - I guess there's obviously a lot of internal migration within Australia which determines the rates, but often the decisions about how fast the city grows and decisions of the city are the state itself, so - and I think by and large they should deal with the consequences. I don't really think that the citizens of one part of the country or one capital city ought to be contributing to solving the problems of other capital cities.

COMMISSIONER DOOLAN: Sure, sure.

MR WATSON: And I certainly don't think that the Commonwealth public service actually brings any technical expertise to the question. Whether they have the engineers, the microbiologists, the professionals to make much difference. I think all they could ever do is make things slightly worse, which they have.

COMMISSIONER DOOLAN: Okay.

COMMISSIONER MADDEN: Just in terms of where - I think you acknowledge we've got cross-boundary issues in terms of the Basin and the like.

MR WATSON: Yes, sure.

COMMISSIONER MADDEN: And environmental water. Do you have any comments on the future management of environmental water in those cross-boundary circumstances, and I guess in knowledge of the past with the Murray-Darling Basin Commission and - - -

MR WATSON: Well, I mean I'm not a great fan of having a Murray-Darling Basin Plan as such, and I think I'm on the record, I've written extensively on that topic. But, of course, we do have a Murray-Darling Basin Plan so I guess the question really applies to what should happen now. I think the complexity of the environmental issues; space, time, the engineering, technical, all sorts of different dimensions and the overriding uncertainty situation that's been dealt with, don't lend themselves to a prescriptive plan. But I mean I think the phrase that Tim Cummings and I used in the work we did, which is published in the Quiggin edited book, we framed a resource strategy of messy gradualism in working towards tangible environmental targets. That sort of happened in the past. So I - - -

COMMISSIONER MADDEN: I think that might be where we ended up anyway.

MR WATSON: Well certainly messy, (indistinct).

COMMISSIONER MADDEN: I mean you, in a sense, are describing adaptive management.

MR WATSON: Yeah, yeah, yeah, but - - -

COMMISSIONER MADDEN: Particularly on things like the infrastructure, et cetera which is coming along a lot later than - - -

MR WATSON: Like a lot of things in the professional domain and, you know, if we sat down we could think of things where the underlying idea makes sense. But I mean the boundary between adaptive management and opportunism was extremely narrow. It's, you know, a bit like the precautionary principle, it can lean, whatever you like. I mean (indistinct) has the same survey as me and he's written extensively on the corruption of words and the bureaucracy, and probably nowhere is it truer than in the fine level of work of Leonard (indistinct).

COMMISSIONER DOOLAN: In terms of some of those reforms that were put in place in the 80s and the 90s, are there any that you are concerned about that governments are starting to potentially backslide, put at risk some of that; particularly as we're seeing generational change in the bureaucrats, the communities, the regional leaders. Are you seeing anything that is of a concern that we should be aware of?

MR WATSON: Well, I think it's - I think it's point - yeah, it's in point 18 of the notes that I sent yesterday.

COMMISSIONER DOOLAN: Yes.

MR WATSON: Unabated as it is to read it, it says, "The underlying dilemma for local management of environmental problems, is that there is a big distance in space and time between the large number of people remote from the action who derive very small benefits from successful policies and programmes, and the small number of locals who are adversely and substantially affected". And I conclude by saying, "Over time it's likely that local interests will prevail", because they're constantly on the case and other people are seldom on the case, as it were.

So I think there's some memorable words of Professor Jack Lawson writing about the Australian dairy industry. I mean only in a very enlightened democracy will the interests of the many prevail against vested interests over a very long period. It's just not of the nature of the case. And I think the thing now is greatly complicated by the fact that there's a new political player, the non-empirical - this non-empirical environmental slogan-based environmentalism which is a further frustration and actually a - well, it almost sort of vindicates some of the negative attitudes that are in the irrigation community. But it also will fail to deliver really - results in the long run because it's not really sort of grounded on anything coherent.

I mean you can't turn an intrinsically complicated problem into slogans. It doesn't matter whether you're sort of managing complicated economic problems, complicated environmental problems, it just - in the long run that will have negative consequences and people will have to re-learn that - the simple minded steps that were taken, you know, when (indistinct) sort of - famous expression about the management of business cycles of commodity (indistinct) - what is it? This time is different. So it's a way different but largely it's people are not - it's, you know, people fatigue eventually, so it sets in and not many - not many people are sort of prepared to put in the years and years of hard work that it actually requires to achieve good results in these sorts of complicated areas. And the expansion phase, it's simple but, you know, stable states and to contract something is always a very tricky exercise.

COMMISSIONER DOOLAN: What would you like to see governments do to achieve, if you like, a sustainable high value irrigation sector? What would be the advice or the policy settings that you think would be important?

MR WATSON: Well I think one of the first things you'd need to realise is that it's productive irrigation sectors, not just about water. It's connected to developments in commodity markets based on, you know, the settlement history of the areas and if you - I mean there are lots of unforeseen consequences, say arising out of a policy which - on the job and support for buybacks for environmental purposes, but if as the previous Chief Economist of the Productivity Commission pointed out, Jonathan Pincus, who has written extensively on it, if as has happened buyback is practised randomly in a spatial sense, it will lead to additional costs and real serious sort of problems, and I think is an extent to which that's happened, so that the risky - profile of riskiness as between industries and regions and states have sort of been changed by those policies. And, you know, we never know exactly what's going to happen because we don't know the time path in the weather or in the markets, but you could easily anticipate some - or envisage, you know, some very difficult situations emerging basically because the fact that it was politically too difficult to do what's implied by reducing the amount of irrigation in favour of buying better flows. I mean it's implied that there will be less irrigation

but it's obviously going to be politically more difficult to close down the marginal irrigation areas. So if it's done at random, and this has generated another set of problems though, I think people who've got long experience in dealing with these sorts of problems have sensible ideas about how you perceive it. But in the short run, I mean I can't see much good coming out of the way the Murray-Darling Basin Plan is now structured. But it's a hard won political compromise and in that sense certain aspects of it are worth sticking with. But there's other parts that - like not having a really coherent regime of selection of environmental projects and putting them into practice, I mean it's - they're so - that's so poorly developed, it's - you know, I'm just not all that optimistic.

COMMISSIONER MADDEN: No more from me.

COMMISSIONER DOOLAN: Okay. So, you don't - - -

COMMISSIONER MADDEN: On that optimistic note.

COMMISSIONER DOOLAN: If there were any - it is what it is. So again, if you had thoughts about what should be either prioritised or changed, you know if you were in charge?

MR WATSON: That is scarcely likely, yeah.

COMMISSIONER DOOLAN: No, but if you were, are there any priorities that you would see should have significant attention paid?

MR WATSON: Well I think - I mean buy back has gone far enough, in a sense. There's no particular point in pursuing that. I think there are plenty of measures being taken at the end with respect to environmental objectives and presumably they can be pursued. I think - I mean it's pretty clear that issues to do with compliance and stuff need to be sorted out, otherwise it'll exacerbate interstate conflicts if that's required. But since, you know, the time path of water availability and the time path of the relative prospects of various irrigation-based industries is also - is just as problematic. I mean we've seen the dairy industry in the Victorian Goulburn Valley go into, you know, close to death style, and - for commodity-related reasons and also very bad management decisions made by people, exacerbated to a large extent by pretty ignorant government agricultural policies which have not properly thought through issues to do with further processing, which, I mean at a professional - another profession won't need agricultural economics, it's been going on since the 1980s but it seems that the - many of the commercial problems of Murray Goulburn related to very bad decisions about their product mix which irrigated dairy farms and (indistinct).

I guess I don't - and these sorts of considerations, what you might call sort of the macroeconomics of water, which have been in the agricultural economics literature, you know, as long as I've been involved in this subject, which is a very long time, so far as the water-related debate, the thing is that - is the non-issue. In fact I've extended my working life by being able to point out some of the more obvious facts about irrigation in Australia.

COMMISSIONER DOOLAN: Okay. No more from you?

COMMISSIONER MADDEN: Well, I'm tempted to comment on some of those agriculture issues, and we see positive changes in terms of southern New South Wales and see the ability of an industry to respond, and farmers to respond more importantly, as opposed to an industry, to different opportunities, such as cotton and almonds and the like. To be able to use their assets efficiently. But one thing I do want to talk about is this messy gradualism that you talked about, which is a little bit different to the concept of a structured kind of prioritisation process and framework, and I know the two can fit together. But I just wonder with that performance framework and then time and gradually getting there, I mean is that the missing piece in the plan from your point of view in terms of those, I guess, targets? Or is it too nebulous in terms of the objective?

MR WATSON: Well, - - -

COMMISSIONER MADDEN: Again I'm looking for areas for improvement, as opposed to ending on a pessimistic note, Alistair.

MR WATSON: Well I think the people involved in making the decisions have got to be fully aware of the complexity of what it is they're trying to do. So they're not basing their strategies on things like environmental flows, for example, average environmental flows. They would be seeking much more sophisticated targets than that and realising that multiple - there are multiple solutions to the problem, and there's lots of discontinuities that the problem has. You know, lots of corner solutions. Just as an economy can have an enormous number of configurations, so could irrigation. And environmental water management in the Murray-Darling Basin has got a massive number of, you know, different configurations which would have met certain objectives with respect to objectives, and the stability characteristics of the system, if you like. I supervised students in my time who could cope with a lot of the complicated mathematics involved in reaching that sort of - and applying that sort of approach, but unfortunately it's that long ago that I've forgotten what they taught me.

COMMISSIONER DOOLAN: Okay. Have you got any further messages for us that you would like us to take note of?

MR WATSON: No, no, but if I think of anything I've not communicated, - - -

COMMISSIONER DOOLAN: Of course.

MR WATSON: And I might send off a selection of things that I've written over the years.

COMMISSIONER DOOLAN: And, of course, we're looking at the implementation - the effectiveness of the implementation of the Basin Plan next year.

MR WATSON: That's a purely - from pure personal curiosity, what I would like someone to do would be to check the underlying statistics and the conceptual veracity of the idea of sustainable diversion limits. Because it's all a bit unbelievable to me. But any rate, as I'm saying, my professional knowledge of statistics is not sufficient but I would like someone to have a really fresh, independent look about what it actually means to say (indistinct) these sorts of - and then when - what you were taught a long time ago was that the variability of rainfall and runoff in Australia is so extreme that many of the concepts of hydrology developed in other

parts of the world are non-applicable. And yet we have this prescriptive plan and it's supposed to have regional sustainable diversion limits. Well, you know, I'd like normal views of able statisticians on exactly how that was determined. And (indistinct) spent may well have been driven by an aggregate flow target feeding into what regions had to generate, rather than a sort of forward looking conceptual view of one of the potential layers of that. I mean following on from the sort of the very early paper of John Quiggin, when he discusses various economic concepts that you can apply in thinking about the economics of different notions. You know, sustainability rules, property rights, approaches and various other Quiggin-type approaches. I just think that - well, I suspect, rather than think, that the policy process was path-dependent, just like the economic processes have been sort of path-dependent as well. But any rate, that's something I'm only speculating about, but I think it's worth thinking about.

COMMISSIONER DOOLAN: Okay.

MR WATSON: And it may well - sorry to keep going, but it may well have actually exacerbated the political problem as well, by going down that sort of short - what I regard as a shortcut-based root to the problem, because clearly lots of people can now see things that are wrong with what's been tried to be done and it confirms their sort of worst fears and feeds their objections. But anyway, I'll stop at that point.

COMMISSIONER DOOLAN: Okay, well thank you. And thank you for your submission. Thank you for that.

So, this actually then concludes today's scheduled proceedings. I don't think there's anybody here to add any additional thoughts. So, I suppose for the record, is there anyone else who would like to appear? If not, I adjourn the proceedings and this concludes the Commission's public hearings for the National Water Reform Inquiry for today and for the Inquiry. So thank you. Thank you all.

MATTER ADJOURNED

[1.01 pm]