



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**NATIONAL WATER REFORM PUBLIC HEARING**

**DR J DOOLAN, Commissioner**  
**MR D COLLINS, Associate Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**DAY 1**  
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COMMISSIONER DOOLAN: So good morning everyone. Welcome to the public hearings for the productivity commission inquiry into national water reform. I'd like to begin by acknowledging the traditional custodians of the land on which we're meeting today and pay my respects to elders past and present, and given that we're meeting virtually today with a range of participants from a whole range of places I'd like to recognise the traditional custodians of the lands on which all of our participants are joining us from. My name is Jane Doolan and I'm a commissioner with the productivity commission, my fellow commissioner is Drew Collins and we're leading this inquiry.

The purpose of these hearings is to facilitate public feedback and comment on the recommendations, the findings, and the renewal advice that we have made in our draft report which was released in February. Following this hearing today, and further hearings on Wednesday, we'll be working to finalise the report and hand it to government by the end of June 2021. Having considered all of the evidence that has been presented at the hearings, and the submissions that we have received in relation to the draft report. Participants and those who have registered their interest in the inquiry will be advised of the final reports release by government, which can take up to 25 parliamentary sitting days after completion.

Throughout this inquiry we've talked to representatives from the Australian state and territory governments, from local governments, from peak bodies, from NGOs, aboriginal and Torres strait islander groups, academics, and individuals with an interest in the issues. And we are really grateful to all the organisations and individuals that have taken the time to prepare submissions on the issues paper and the draft report, and to appear at these hearings. We like to conduct all hearings in a reasonably informal manner, particularly virtually, but I do remind participants that the sessions are being recorded and that a full transcript is being taken, and for these reasons any comments from observers can't be taken but at the end of the day's proceedings I will give an opportunity to anyone who wishes to do so to make a brief presentation.

Participants are not required to take an oath but are required under the Productivity Commission Act to be truthful in their remarks and they are welcome to comment on the issues raised in other submissions should they wish. The transcript will be made available to participants and will be available on the commission's website within a week of this hearing. Submissions are also available on the website. For any media representatives attending today some general rules apply; there is no broadcast of the proceedings allowed, and taping is only permitted with prior permission. Participants should be aware that media representatives that may be present could be using Twitter and other internet mechanism to convey information online in real time, including participant's remarks.

We invite participants to make some opening remarks, five to ten minutes, and then that will allow us the opportunity to discuss some of the matters in submissions in greater detail. I would also like to ask all observers and participants who are not speaking to please ensure their microphones are on mute, so that we don't get echoing and that ensures limited disruptions.

5 Thank you. So now I would like to welcome the Wentworth Group of Concerned Scientists who are represented, I believe, by Dr Jamie Pittock and Dr Celine Steinfeld. Okay, Jamie and Celine welcome, and could I ask you to just make your introductory remarks please.

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DR PITTOCK: Thank you for this opportunity, my name is Jamie Pittock, I am a professor at the Australian National University and convene the water group of the Wentworth Group of Concerned Scientists, and I am speaking to their submission, and I'm joined by our director Dr Celine Steinfeld. So, thank you for this opportunity. I'd just like to outline the key points from our submission, being that we very much support the National Water Initiative for this inquiry to enhance its operations. That we reject any assertion that the National Water Initiative is leading to benefits for the environment, and ask the productivity commission to particularly critical in assessing this.

15 We'd like to talk through our proposals regarding adaptation to climate change, and we'd like to just emphasise a number of other improvements we think would enhance the National Water Initiative.

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So just to go through those four points in a little more detail. The Wentworth Group of Concerned Scientists essentially started by preparing a blueprint for national water reform and that was a key contribution to the establishment of the National Water Initiative two decades ago. We very much support the National Water Initiative and we welcome this productivity commission inquiry that has identified a number of enhancements that would considerably improve the efforts for the society and for the environment, and we particularly welcome the stronger emphasis that the productivity commission is proposing on indigenous water rights and access, but we will leave that to indigenous participants to discuss that element further.

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The Wentworth Group is concerned that a number of government agencies are claiming that with the National Water Initiative, and with some of the basin plan reforms, that benefits for the environment are starting to be seen. We simply don't think that there has been the science that demonstrates that as yet, and indeed the science that we do have suggests that the results from national water reform fall far below the sort of standard that we would anticipate. Now many of our comments will be related to the Murray-Darling Basin, we do understand that this is a national inquiry, but we do feel that many of the examples from the basin have application through the National Water Initiative to other places around Australia.

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In the draft report the productivity commission cited a number of papers to claim environmental benefits, we don't believe the government's consultancy

reports really do demonstrate that. Often, they are a series of anecdotes about success with one-off breeding events, at the very best they demonstrate some improvement in the local scale. What we are missing is the science that demonstrates at the basin wide context - or the national context - that this environmental watering is leading to achievement of standards of diverse conservation objectives. Things like recovery of populations of threatened species, things like conservation of representative areas of different wetland ecosystems, and the maintenance of the ecological character of Ramsar sites. This is of particular importance to the commonwealth because the commonwealth's Water Act and other provisions are substantially gained in constitutional mandate for achieving those objectives under the Ramsar wetlands and under the convention on biological diversity.

So, to be unable to present any coherent, scientific data to demonstrate those achievements - I would suggest - is worrying. Let me just focus on one of the papers the productivity commission cited in the draft report, I'm the co-author of the report by Chen et al. In fact, what we found was entirely the opposite to that implied in the report. So, for example, in that paper we looked at where commonwealth environmental water had been delivered over seven years, and for the managed flood plain area in the Murray-Darling Basin of nearly 3m hectares, only 141,000 hectares had received any environmental water over a five-year period. Now I think most Australians would be appalled that after spending \$13m we're only capable of watering about 4.7 per cent of the managed flood plain in the basin over a five-year period. Let alone conserving the 6.3m hectares of the basin.

This suggests to me that we have a problem in terms of many of the government agencies not having set clear performance targets and undertaking the monitoring and science needed to report against them. We cited in the Wentworth Group submission two new scientific papers that are under review and they further emphasise this issue. I think most Australians would expect that \$13b worth of water reform would lead to recovery of populations of low dependent threatened species. In this paper which we'll provide to the productivity commission we looked at populations of eight nationally listed threatened species and only two of those eight is there any evidence - in all of the scientific data on federal, Victorian and New South Wales databases - of any sort of species population increase. And for those two species, those are species that have had long running national threatened species recovery programs, and there's some suggestion that it's the recovery programs - and not the water management institutions - that are leading to these benefits.

And I would certainly want to record my appreciation to the efforts of state government employees who have been focussed on that. In terms of climate change the productivity commission has rightly been asking, 'how do we adjust the National Water Initiative to deal with the great changes in water' availability that we're seeing in different regions of the country and

particularly in southern Australia where there's a massive reduction of inflows. We don't think we perhaps explained our proposal for continuous adjustment as clearly as we could've in our first submission, and we'd like to spend a bit more time with the commission now setting out the three steps that we see to providing a pathway for adaptation towards the end of each 10-year planning period, ending in some pretty horrendous decisions needing to be taken.

And so just to summarise what we're proposing; we're proposing that their priority of rights for water entitlements is given greater force by setting downstream flow targets that must be achieved before upstream water diversions occur. We're suggesting that in each 10-year planning period that, through a public consultation process, there is a hierarchy of priorities identified both for conservation, and also for socio-economic outcomes, that would enable the lower priority ones to be abandoned as water inflows decline in southern Australia. And then thirdly we're proposing a continuous adjustment of entitlement rights so that on an annual basis the volume on paper is reduced to match declining inflows, so that we don't end up with a much more difficult political decision at the end of each 10-year planning period.

Just lastly, I just want to emphasise five other key additions we'd like to see in the productivity commission report. One is a recommendation about modelling water; that there be one true model for each basin rather than the current hodgepodge of state models that are bolted together at the borders. Secondly, we're asking for an improvement of water accounting, that in addition to counting the water that's extracted from rivers that governments are expected to count the water that's left in the rivers and make sure that this double entry accounting model is delivering the outcomes we expect, and that remote sensing is used in that monitoring process.

We're asking the commission to recommend that the so-called credit-based water allocation systems on some rivers like the Lachlan and the Macquarie are abandoned in favour of debit style water allocation systems that are more resilient in dry years. We're asking that you recommend that water infrastructure is subject to periodic relicensing, so that every 30 years or so society gets to review whether the infrastructure is safe, is needed, delivers socio-economic benefits, or whether it can be improved to improve its social and environmental performance. And then lastly, we ask you to recommend that there be an expectation of transparency in water management that all substantial federal and state government documents are publicly available to enable community engagement in water management processes. Look I'll stop there, and we look forward to this discussion.

COMMISSIONER DOOLAN: Okay, well thank you very much. Celine, anything you want to add.

DR STEINFELD: I just wanted to say thanks for the invitation to have us here, and happy to take questions.

5 COMMISSIONER DOOLAN: Okay. Well thank you. I do have a range of questions, so bear with me if you don't mind. I do want to start with the environmental outcomes and advice on that, and I take the point much of your area of interest is MDB, but we are looking for what lessons to be learned that can be raised to the national scale. I have a couple of questions really, so I do take your point that much of the success is at the local scale at the moment, and potentially anecdotal. I suppose so we are also trying to look a bit at the counterfactual, and not just in the MDB, but by 'what if these reforms had not happened?' So, there's the protection of existing clover in other areas, and what would expect if you weren't in an overallocated system? You would expect to maintain ecological condition, rather than -  
10 potentially - improve it.  
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So, it's a little bit trying to understand; are we looking simply at the recovery where we're expecting to have significant improvements - which is the reasonable expectation - I suppose the question I have is; given the variability of climate and particularly, as you've noted, how much the flood plain was watered over a five-year period - which I believe was a significantly drier period as well. So, given both the variability, the long terms climate trend, but particularly the variability, over what period of monitoring - if the monitoring (a) was adequate and the objectives were clear, so take those  
20 points completely, and we've tried to bring those out as well. But what would be the expectation that you would be able to really make scientifically definitive statements? Because it is somewhat compounded by the climate variability here, isn't it?  
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30 DR PITTOCK: Well certainly. And I certainly accept that there's substantial variability. I guess the question is - there will always be variability - but is this what we're seeing as a significant drying trend? And the authorities' 2020 basin plan evaluation suggesting a 39 per cent fall in inflows in the basin over the last 20 years compared to the long-term historical record  
35 suggests we might be in a drying trend. I think the problem is that the Water Act and the basin plan imply that nearly all the environmental assets can be conserved. That just does not make sense if you're looking at a 39 per cent fall in inflows, and that's why we're arguing that there needs to be a much tighter prioritisation of both environmental and socio-economic assets to be  
40 successful.

I think that in terms of what those assets might be, it's clear that we can conserve - even with significant variability and declines in inflows - a number of priority assets such as Ramsar wetlands, such as key populations  
45 of threatened species and migratory water birds, without conserving 6.3 million hectares of wetlands in the basin or similar areas in other parts of the state. What we're not seeing is the strategic planning that enables those

5 priorities to be clearly enunciated and for there to be any sort of appropriate monitoring of progress. I mean, I think that setting out those priorities would greatly help in terms of communicating to many stakeholders what the benefits of these environmental watering programs are, and indeed enable many parts of society to contribute to them.

10 Which is not so clear now with this jumble that we have of functional flow targets that are too many, contradictory, and don't mean much to normal human beings. In terms of your question of the counterfactual, I think we would argue that the state of the fresh water ecosystem - if anything - are declining. I think the Murray-Darling Basin Authority's stand condition reports show no improvement, or a decline in condition. In terms of the threatened species that the ANU paper has recently analysed, they show population increases for two out of eight species and for many of the other species flatlining or declining. Professor Richard Kingsford's annual waterbirds surveys show a sort of flatlining of waterbird populations at a fairly low historical level. The evidence is not great.

20 The other counterfactual point I would make is that when we, in the Wentworth group and others, have looked at counterfactual evidence around flows where we have compared adjusting for year-to-year climate; how much environmental water, how much river flows you would expect to be in the rivers, compared to the basin plan model we're finding that there's significantly less water in the rivers than the government models suggest there should be. So our recent report showed a 22 per cent less water in the rivers over the period for which there was a high degree of environmental water recovery at the South Australian border and the governments haven't, at this point, worked out why there is that difference and have put in place measures to manage for that. So, I think that we're in a pretty difficult situation. I might just hand over to Celine in case she's got something to add on that point.

35 DR STEINFELD: Yes, thanks Jamie, that's a really good overview, and I'd just like to add that there's a clear disconnect between commitments and requirements of the policy versus the reality that we're seeing on the ground. And the science, as Jamie's mentioned, is saying - they're documenting the board decline of species and ecosystems. We're also reflecting that in the flow regimes and one of my views is that the reason for that disconnect is that we don't have very clear mechanisms to link our management with the outcomes, so that when we're seeing outcomes on the ground playing out, we have very few management levers to influence, and those management levers are only influenced at time scales that don't reflect what is going on, on the ground.

45 So that's one of the main reason we're recommending things like flow triggers and others to help bridge that gap between management and outcome because they'll allow for far more adaptive approaches, especially in a



changing climate. So, what's really important to underpin all that is the monitoring at both the short term and the longer-term scales. So things like the achievement of environmental water requirements, that's a really fundamental piece of information that is not clearly known at the moment in the Murray-Darling Basin, what achievement of specific flow outcomes are at each gauge and then enabling us to link that back up to outcomes and the way we manage environmental water.

And secondly, things like the Sustainable Rivers Audit and other basin wide, longer term monitoring frameworks have been abandoned and as a result we don't get that clear, continuous picture at the basin scale of what's been happening over time. And it is very clear when you do have that information that you can pick up that overall trend against the backdrop of variability, it's just that we don't see that. And datasets like Richard Kingsford's aerial waterbird survey are indications of - you can see that variability over a longer timescale. So, we need to start - with urgency - on collecting and putting together those basin wide monitoring schemes. But in the absence of those, we can't abandon our priorities, and certainly having a stronger link between management and outcomes will really help.

Another point to make is that the environmental water pool we have at the moment is nowhere near enough to achieve the commitment that the legislative requirements demand. And secondly, even if that environmental water was enough, there's still other really important mechanisms - like river operations and constraints - that need to be addressed in order to get the best impact or benefit from that environmental water. So, we need to see environmental water not just as a separate bucket of water in the river system, but we need a completely integrated approach to managing environmental water, consumptive water and the nest of rules and regulations that apply to both of those together.

COMMISSIONER DOOLAN: So, could I just pick some of that up because we certainly did try to take a number of those messages from your initial submissions - and from others, obviously - and that translated in this report, given that it's got a national focus, and not MDB 2023, and I'm sure you're looking forward to that. But into definitely much better articulation of ecological objectives and outcomes in water plans. Clearer definition of ecological prioritisation. In low flows in particular - so I think this picks up your general point about knowing how the water sharing is meant to occur, and what the environments meant to have, so that's the prioritisation in low flows that I think you referred to being very clear in water plans.

I think your point about the threatened species and the recovery plans, we took it as a more general - that environmental water has to be part of the whole natural resource management regime aimed at the ecological outcomes which the threatened species recovery plans are very specific, but integrated, to do that. So, we've tried to pick that up. Your points about accounting and

water left in rivers is our areas of integrity of system management. Now acknowledging that much of Australia is not in this level of highly managed - but there are a number of systems that definitely are - we actually have tried to say there's a role of the system manager - the river manager, Celine,  
5 actually having an obligation to proactively try to assist meeting environmental outcomes with no third party impacts.

So, a number of the points you've raised on that, I think we've tried to pick up in more general terms, but they are across chapters, so they're not all in one  
10 area. There are some in the environmental chapter, some is in the system integrity chapter, some is in the water planning chapter. But overall does that package start to pick up your concerns? Noting that we're not dealing with Murray-Darling.

15 DR PITTOCK: Yes, and we particularly welcomed a number of the reforms that you're proposing. And I was particularly appreciative of your proposed model for integrating the water management plans with the environmental watering plans more explicitly, I thought that was a really good step forward. And so, we can certainly see in your draft report that intent to enhance the  
20 sorts of issues that we're talking about. I hope that our current submission provides a few more ideas, and a few more explicit examples that might help you flesh that out further in your final report.

25 COMMISSIONER DOOLAN: So, are you happy to keep talking?

DR PITTOCK: Yes.

30 COMMISSIONER DOOLAN: Good. We certainly, I think, take the point about the need for greater consistency between models that are used - particularly in the way that climate is integrated in those. So, we were considering the ideas of ever consistent principles across jurisdictions, and some form of quality assurance around those modelling type products. I think we're getting that from a range of people and also the potential that it could be feasible to do that. So, I think that also is a point that you've raised;  
35 the need to actually have something like that in a national policy. Is that okay?

DR PITTOCK: Yes.

40 COMMISSIONER DOOLAN: So, you had the; 'one model for each basin.' Well we're looking to see if we can get more consistent principles. The continuous adjustment: so, I understand the priorities in the water plans - the priority of rights, absolutely - how things deal with low flow. But the continuous adaptation of the consumptive pool on a year-by-year basis I find  
45 hard to translate that into an entitlement framework given that that is the basis of which we allocate water against entitlements now. So, the question I would like to pose is, if you could explain that a little better, how it related to

entitlement versus allocation? And also, whether it's most effective in a regulated system only, does it work with the planned environmental flows? I can see it as being understandable in a regulated system, but in a system, which has both elements, and a system that is mostly unregulated, I find it a little more difficult.

So, could you just go through that? Because it is something I do really want to try and get hold of, but it's got to be able to be translated in the entitlement framework that we have.

DR PITTOCK: Yes. Thank you, these are great questions and I really appreciate the commission spending so much time thinking this through. So, as you recall, what we've proposed is three steps. I think you could call it the Menindee test; would it keep a reasonable amount of water flowing at Menindee. And so, we've got these downstream flow targets proposal as the first step which sets societies' standard expectations we've proposed, prioritising then the environmental and the socioeconomic assets that would be maintained over a 10-year period, with the priorities enabling the least priority assets to be dropped off as water availability falls. And then we're proposing, with the entitlement pool, that each year there is a formula that looks at the rolling long-term average of water availability and that the on-paper volume of water entitlements is in the west of southern Australia where inflows are forming, adjusted down each year.

And so at one level you might say that this is not necessary because the annual allocation system accounts for a wet or a dry year, on the other hand we would say that this is an important mechanism to adjust societies expectations that as water availability is continually falling in southern Australia it's sending a signal, both to the environmental held water entitlement holders, as well as to the economic held water entitlement holders that the total regular volume that they might expect - the average if you like - is falling. It then, I would argue, enables the market to start that adjustment independent of government administration for socio-economic values.

We would say that a lot of the current angst over irrigation water entitlement in New South Wales is because that particular class of water entitlement is especially hard hit because of the overallocation of them and because of their limited reliability and falling inflows. Adjusting the on-paper volume of those down each year, I think then, sends a signal to those industries that they do need to apart and enables the market to trade those entitlements to lead to the most economically optimal outcomes. So, Jane I think your question then was, 'okay we've proposed that downscaling, if you like, for the entitlement pool. What about the planned environmental water pool?'

Our suggestion would be that the planned environmental water pool is not adjusted annually, and that instead that that's then reviewed as each water plan comes up at the 10-year mark for revision. And that's the point at which

the overarching prioritisation that we proposed in step two of identifying society's values and priorities for both the environment and socioeconomic sector. But that's when that is revised, and the planned water entitlement share would be revised at that point.

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COMMISSIONER DOOLAN: Okay, thank you. I've got a couple more questions.

COMMISSIONER COLLINS: Well, actually - - -

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COMMISSIONER DOOLAN: You go, because basically I'll dominate if you don't Drew.

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COMMISSIONER COLLINS: That's fine. Firstly, can I add my thanks to both of you for the submission and for appearing today, it's certainly appreciated, and we'll go through your comments in some detail. On that last one, where you're talking about rebalancing the consumptive environmental pool every 10 years, but within that period to be adjusting your entitlements based on a rolling assessment of availability. You're really suggesting that the government takes on a roll in managing private risk, rather than leaving the allocations to vary and the private sector to make those risk decisions. You're talking about impacts on their entitlements, which is their rights and their assets, so it's a very significant recommendation where you're not fundamentally looking to change the allocation to that pool, just whether it's captured in entitlements and allocation. So, I'm curious why you have that strength of view given the implications to the private management?

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DR PITTOCK: Well it's both private and public management because of course a large minority of the held entitlement pool in the Murray-Darling Basin is environmental water. So, it's not just the private sector that would be impacted. I mean I think the issue is that we've seen governments being unwilling to take into account in water planning very clear science about changes in water availability due to climate change, and the most egregious example is the Murray-Darling Basin plan itself that had very good CSIRO scientific advice and didn't directly take that into account in terms of adjusting water availability for climate change and now they're reporting this 39 per cent long-term fall in average inflows in the last 20 years.

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I think that adjusting the entitlement pool downward on an annual basis, I think, signals to all parts of society - environmental interests as well as socioeconomic interests - that the amount of water available is falling and that we need to be taking continual steps.

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COMMISSIONER COLLINS: Excuse me Jamie, on that; even if you do subscribe to a long term decline in availability of water, within any 10-year period you could get a significant departure from that long term trend, you could even get an increase in water availability over a short period of time, is

that a fair statement? And if it is, then your adjusting entitlements - rights - up and down, do you see an issue there?

5 DR PITTOCK: Yes, that's right, I mean if we had another 56 scale flood then that would change those averages. And no, I don't see an issue there. I would say that if we believe in the power of the market to adjust resource and access to deliver the best socioeconomic outcomes then in a declining entitlement pool you would think that greater scarcity might lead to an increase in value of the entitlements - even though their paper volume might be smaller - and that there are still sound economic outcomes for society, for businesses, with that annual adjustment.

15 COMMISSIONER COLLINS: Just one last question then; is it also fair to say that there's probably no one right answer in terms of developing a policy framework that triggers an ongoing adjustment - there's probably 1000 ways we could cut it - it's probably an area that requires a lot of thought and we probably should, as a community, put attention into developing and examining those sorts of options rather than jumping too quickly to a particular strategy?

20 DR PITTOCK: I'd totally agree with you, as a university lecturer in climate change adaptation the first lesson I give my students is that there's almost always multiple options for doing this sort of adaptation and that they're partly value based there's sure to be some good ideas out there that we haven't thought of. And so, I certainly agree with that. What I would say though is that governments can no longer procrastinate, we saw that in 2012 in terms of the basin plan not including direct action on climate change. I think we have to start somewhere, and I think that your commission is in a really good place to gather the best ideas from round the country and put some options out there. If we're seeing this scale of fall of inflows - you know, the 39 per cent in the Murray-Darling Basin - then we shouldn't be waiting for any more precise science to act, or any more perfect policy mechanism.

35 I would urge you to reach a view on the best of the available options. There might be different but complimentary options that can be applied at the same time and assist our governments to find their reforming zeal.

40 COMMISSIONER DOOLAN: Could I have one last question and then I'll give you a couple of minutes' opportunity to sum up. So once again, thank you, and it's less about NWI but it is about ecological objectives. So, you've referred a number of times to Ramsar and you've also referred to significant predictions for significant reductions in water availability. How do we reconcile that, that in some cases the current Ramsar characterisation will not be able to be maintained into the future, whether you're in the MDB or not, whether there's held, no water utilisation in a catchment which I can think of,

we do have to acknowledge that as part of a climate change issue as well, don't we? And have some form of process?

5 DR PITTOCK: Absolutely and I've written an entire scientific paper on this precise topic. Yes, you're quite right that ecological character - so ecological character, as you no doubt know, is an international legal test of how well a Ramsar wetland is maintained and it is the key standard to which member governments are meant to be held in terms of conserving their wetland sites. A couple of things I would note; one is that the Ramsar characterisation of  
10 wetlands is more a geomorphic characterisation than a biological one. You are raising a key point that species composition of wetlands will almost certainly change with the climate, and this is the subject of a lot of work by the Ramsar convention and they're not straightforward answers.

15 But there are some answers in the Ramsar convention guidance in terms of things like where the ecological character has changed and can no longer meet Ramsar criteria, that member states - such as Australia - are obliged to identify and list alternative Ramsar wetlands. I would say through that I'm puzzled by the actions of the Australian government in this area, because I  
20 think the world accepts that conserving wetlands in the changing climate is a tough job and Australia, rather than leading this debate, has been hiding from it. So, for example, there is an obligation for the Ramsar information sheets and the ecological character of listed wetlands to be updated every six years.

25 Australia is a long way behind schedule in terms of doing that. That process is an opportunity to describe how ecological character might have changed over the six years' period, and to formally suggest adjustments to manage new circumstances, and that opportunity is not being seized by Australia. If that were done well that could feed into the sorts of monitoring and adaptive  
30 management processes that we need - not only in Australia - but globally, and I would certainly hope that our governments look to do that.

35 Just one further point and that is that with the changing climate, some of the places that we currently conserve as high-value wetlands may degrade and there may be an opportunity or a need to conserve wetlands that are not currently prioritised that are currently degraded that couldn't be key refugium. So, to give you an example, in the Murray-Darling Basin a lot of the very large flood plain forest wetlands on semi-terminal deltas or along the flood plain may degrade a lot, and the places where a lot of that key biota  
40 might thrive in future are the mid-reach wetlands, such as the mid-Murrumbidgee wetlands that get more reliable water from groundwater. And that has implications in terms of shifting the conservation investment to a different site - perhaps restoring it - perhaps putting more effort into managing the groundwater so that the inflows from groundwater to the  
45 riverbeds are sustained.

And that sort of planning hasn't yet occurred and would be highly desirable. Let me just hand over to Celine in case she's got some further comments.

5 DR STEINFELD: Just to continue that line on groundwater; having looked at the data of groundwater consumption versus surface water consumption during really dry periods it's clear that groundwater is heavily depended upon, and so as we're experiencing more and more dry periods we're going to need to make sure that our groundwater management systems are robust and sustainable so that we're not just transferring any changes in our surface  
10 water regime over to impact our groundwater recourses. I just wanted to add one point, earlier on Jane you mentioned the priorities related to low flows, and I think they're absolutely critical.

15 What I think are also think are critical are priorities related to flows that other parts of the flow regime - particularly from the environment's perspective - occur at either bankfull, over bank part periods, and that's very easily seen through what I was referring to earlier as those environmental requirements tables that show, based on the antecedent conditions what has and hasn't been achieved, and you can see that it highlights the red areas where there's  
20 some critical overbank flows and others that are needed.

COMMISSIONER DOOLAN: Thank you. So, look, thank you for that, and I think we could keep this conversation going for quite some time, but we have other submissions. It is a really important conversation, and I do think  
25 it needs to happen, and some of the issues that you've said Jamie possibly needs to happen almost outside of the basin so that we can pilot them in less contentious circumstances and have those conversations. I think we're getting out of the territory that a national water initiative, at least at this point, can deliver, but it's the sort of work that will contribute to its next review probably. So, can I just thank the both of you for appearing and The  
30 Wentworth Group for its submission on the draft, and for its submission on the issues paper, and for your interest in this. So, thank you very much.

35 DR PITTOCK: Thank you. I would like to thank the commission for undertaking this work and pursuing some of these difficult issues where we need to assist our governments to take tougher decisions in a changing climate, and we wish you well in your work, and look forward to the final report.

40 COMMISSIONER DOOLAN: Thank you.

COMMISSIONER COLLINS: Cheers.

45 COMMISSIONER DOOLAN: Okay so I would like to now introduce our second speakers, so it's Prospect [sic] Australia, have we got Prospect [sic] Australia online?

COMMISSIONER COLLINS: Prosper.

COMMISSIONER DOOLAN: Prosper, I'm sorry. So, Prosper Australia and we have Emily Sims and Jesse Hermans, is that right? Okay.

5 MR HERMANS: Good morning, how are you?

COMMISSIONER DOOLAN: Good morning. Would you mind introducing yourselves, I've just done it, but do it again for the record, and then outline some of the key points of your submission. Thank you.

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MR HERMANS: Right, thank you. So, we are a not-for-profit research institute and we specialise in dealing with taxation and mass monopolies and so that's the lenses that we present or the grounds we present to water policy and the national water agreement. And our primary concern in our submission are how water markets are being designed. So, our submission primarily speaks to those issues and property rights such as water entitlements.

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COMMISSIONER DOOLAN: And do you want to take us through the key points of your submission?

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MR HERMANS: Yes. Our first focus that we look at is how are water entitlements designed in a market system. So we hold a - what you could say is a normative position - that if the government is going to enclose a common resource such as water that the benefits or the financial returns to creating those property rights inherently should remain with the public, and not just turn it into a financial commodity for private speculation and private gain. And so, we note that where water markets become more developed through entitlement claims that now we have investors in water markets who profit from simply just earning water entitlements, not from actually value adding or using water.

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And so, we think this is fundamentally a problem because it's signalling that you can actually make money in a market system without actually adding in value, whereas we think the public should be receiving those economic rents created through those property rights. So that's our first concern with how those are structured and then that kind of also flows into another issue where, in terms of maintaining different water systems, water infrastructure, and so on we note that there's a lot of cost recovery that goes on to productive users of water that value add on to water. But then we question how much cost recovery, or how much of that financial onus is put onto the property rights holders of those entitlements?

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Because if we're charging the people who are value adding with the water more than the people who are just making money out of owning the water, then we're really inhibiting productive enterprise for the benefit of some property rights holders that aren't directly contributing anything other than

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the mere fact that they own an entitlement, which we think is wrong. So, it's not beneficial in the public interest to create a market in such a way. So those are our main issues with what's happening. We would like to see markets be designed in such a way where the government retains more of the economic rents that accrue to those entitlements by not having perpetual open-ended permanent entitlements, preferably using perhaps a leasehold system for entitlements that are auctioned off to the highest bidder on terms long enough to facilitate long term investment decisions, but only that long, and not longer than that.

As well as potentially shifting some of the financial imposts that productive water uses face away from the mere use of water infrastructure towards the actual ownership of entitlements themselves, so then that way the investors, or the owners of water entitlements that don't actually use water in enterprise are actually contributing a much fairer share towards that infrastructure. That also benefits their entitlement, because they can't really make money out of an entitlement if no one can use the water. So, in some sense we think that the distribution of those costs should be shifted towards that. And we also raise the issue of changing property rights - because it's a monopoly system that's regulated by the government, we also have concerns where there is an incentive for lobbyists and rights holders to lobby the government - or incite connections with regulators and so on - to have their rights changed through legislation or so on, and then deliver them windfall gains to their asset values because now their property rights are worth more because they can do more, and they have just received free value from the public (indistinct) for that additional property rights.

So we give away value from the public when we change people's rights to their benefit, but then whenever we have to buy back rights, or we have to undo all the over-allocated water and so on, then the public has to fork out money to buy back those rights, and we think it's inherently wrong then that the private owners of those rights are getting the public created windfalls, but then again at the same time when it comes for the public to reduce the number of rights in the system, or change property rights for water entitlement holders that then the public has to foot the bill. So, it doesn't go both ways, it seems a bit kind of biased against public interest, we think.

MS SIMS: Thanks Jesse. Just to add to that in the context of the draft report the points that Jesse was speaking to were really speaking to advice at point one to do with the provision of a perpetual and open ended water entitlement right, so I'd like to say thanks for allowing that. We're Johnny-come-lately a little to this water reform process, we did not submit to the ACCC inquiry, and we understand that some these issues actually were in the scope of that inquiry. But we just wanted to highlight to the commission that in that advice around providing perpetual water entitlements that we're running into an assumption of a market design that precludes potentially better options such as leasehold and highlights in our submission.

As an organisation much of our work has been done on monopoly, rents and land and real property, so when we look at the objective we're sort of outlining the idea that, for example during the last drought when  
5 environmental water was - or when rules around what could be drawn were changed by the New South Wales' government under the NWI. They're effectivity changing the nature and extent of those property rights in a way that is analogous to, for example, an up zoning in a land context. And we just wanted to draw the commissions' attention to the idea that there is a  
10 political economy problem with that system, and we're seeing it playing out in the urban development space in real property in that there is a risk inherent that it could play out in the water space if there isn't mechanisms such as those that are discussed in the real property space.

15 For example, betterment levies or some kind of giving or taking. That there is always going to be the political economy incentive to lobby for greater drawing rights than have been allocated or exists in that particular jurisdiction, if that makes any sense. Yes, sorry, I just wanted to comment on what Jesse was saying.

20 COMMISSIONER COLLINS: Emily can I clarify; you mentioned the ACCC inquiry, did you say you did participate in that inquiry?

25 MS SIMS: No, unfortunately we did not have the recourse to participate in that particular inquiry, but we familiarised ourselves with the content of the inquiry. We do understand the Productivity Commission is waiting for the final report from the ACCC to finalise their own advice, as I understand it, is that correct?

30 COMMISSIONER COLLINS: Correct.

MS SIMS: Yes, so we are sad that we missed the boat with the ACCC inquiry actually, because a lot of our comments do relate to ground that was covered there. But in terms of the advice under the NWI I think it would be -  
35 yes, we just want to bring it to the commission and offer this perspective. We are a public interest, non-government organisation with a long - with a really specific focus, we really do only look at political economy of monopoly markets, in natural resources. Most of our research, as I said, had been around what happens in real property on land, but we are hoping to  
40 become involved in this space as a public advocacy organisation because we see that in Australia - in the Australian context - with the conditions and climate change, water is going to become our scarce resource and as we tread into market designing for water allocation we have the opportunity to - as we're doing - evolve better models. And we just think that giving away  
45 perpetual water rights could be a mistake.

COMMISSIONER COLLINS: Thank you. You're aware the ACCC report I think came out on Friday? Have you had a chance to have a look at that report?

5 MS SIMS: No.

COMMISSIONER COLLINS: We haven't had a big chance either, but look  
- - -

10 MS SIMS: That's unfortunate timing. Why is it always this way?

COMMISSIONER COLLINS: Look there's a debate we could have about pros and cons of perpetual licenses versus leasehold etc, and it's not a given, there are pros and cons in different situations. I guess we need to focus on  
15 the problem we want to solve. My understanding where the ACCC has got to it - and it's looked at the Murray-Darling Basin, which is the largest, most comprehensive market in Australia. The issues you see there you're not going to see in other catchments certainly not at this stage, if ever. But my understanding of where the ACCC got to is that they didn't identify  
20 monopoly behaviour, they didn't identify water hoarding, they didn't identify price impacts through strategic behaviour so I'm just at a bit of a loss at the problem we're trying to solve here. Without trying to say whether leasehold is better or worse, I just want to get a feel for what is the nature of the problem.

25 MR HERMANS: The nature of the problem is not necessarily monopoly behaviour, it's the characteristics of the market itself. So, there's a finite number of entitlements, I presume, in the system which means that there is inherently an economic rent that accrues to those entitlement holders. So, by  
30 virtue of owning a water licence in perpetuity you then accrue all the gains to Australia's increasing water scarcity regardless of any productive effort that you actually engage in with the water itself. And yet these particular entitlement holders don't actually, necessarily, contribute in equal proportions or possibly they should pay more than people that actually use  
35 water for productive enterprise.

We think that this particular accrual of the gains through Australia's scarce water resources remaining in private hands is not in the public interest. Where we think that, as a common resource, that should be held in the  
40 commonwealth of the people in the same way that we do with our other resource, like minerals, where we charge royalties for private companies to dig out those public resources. We think in the same way that water should also - at least the increasing scarcity and the value of that increasing scarcity - should remain with the public, and not in the hands of private investors. But  
45 rather that people should have access to water for productive use on the basis that they're value adding, and that's how they actually make their returns, rather than simply just owning the water itself - like water.

5 COMMISSIONER COLLINS: So, you're also mindful that whilst those entitlement owners bare the outcomes of any price appreciation through the scarcity, they also bare the risk of reductions in allocations through things such as climate change. So then what do you see as the other side of the coin that you spoke to, in terms of climate change induced impacts on the value of their entitlements?

10 MR HERMANS: Well. I mean, if water becomes more scarce, but you still have access to water, you know, the people still have to come to you to get water, right? If you're going to sell the water on the market - I mean yes you get less of it, but it's an increasingly scarce resource that you still have access to a share of, so either way - yes the risk is that the users will have to pay more money for the water that they're buying off the entitlement holders - or  
15 if the entitlement holder themselves is in fact a user as well - then they are bearing that risk as a water user. But the actual owner as an entity of water entitlements, if you separate that back from the water use - like there are now investors now that just own water entitlements by themselves as an asset class - they don't get any sort of financial loss from increasing scarcity of  
20 water, if anything they can sell that water off at a higher price, given that's it's now more scarce, and they reap the returns to that increase scarcity through climate change.

25 And we think this is something that the public should be holding onto, that the public should be the ones that carry the - - -

COMMISSIONER DOOLAN: So technically the water does belong to the Crown under the legislation in every state and what is, is the water access entitlement, so technically it belongs to the Crown. I think we have a  
30 difference in that generally speaking - not always - but the class of investment that does not use water the ACCC has shown to be very small. So, the percentage is not there, because if you're not using the water, you're actually still paying significant costs in terms of your bulk water costs and your standard entitlement costs that you're not getting any income on. So,  
35 even if you're an entitlement holder that chooses not to use, you'll sell your allocation, so the water is on the market and being able to be used.

40 Entitlement holders certainly over time the capital value of the asset has increased, but the likely dividend they're getting from the allocation that they get each year, given the costs that they have to pay, has not been seen to actually promote that type of behaviour. And it was certainly one of the key things that the government asked the ACCC to look at because there were concerns - certainly in the irrigation community - that that was the case. But  
45 it's been looked at several times now at the MDB within Victoria and not found to be behaviour. There was concern about, absolutely, but not the behaviour that's actually occurring, and with a range of reasons as to why, because financially it's not adding up.

5 COMMISSIONER COLLINS: Exactly, we had shortages of housing and we  
look at the housing market and there's investment houses without people in  
them for whatever short term reasons, but - no pun intended - it's a liquid  
market, there's a lot of housing - you know, we're used to that as part of the  
market operations. So, to go in with some sort of intervention would be  
disproportionate to the problem we're facing. So that's why I guess at the I  
wanted to know what the problem is we're looking to fix. You know, any  
capital market you're going to turn over that capital, and you could have short  
10 term limited use of that capital, because by and large it is productively used  
and the returns to the owners are through its use, generally not through its  
holding and its holding does bear risk both upsides and down sides.

15 MS SIMS: It's very reassuring to know that and not to - obviously we  
haven't looked at the final report from the ACCC - but I'm hoping that the  
commission, and the ACCC, and the government obviously they're focussing  
on this and that's excellent. It shouldn't be market design that's just sort of  
muddled into, but rather hoping that these issues are forefront when we're  
thinking about how these markets can evolve and how they might evolve.  
20 And I would like to - Jesse and I will go back to the ACCC report and have a  
look at it, but even if as one voice if we continue to - on behalf of our  
organisation - forefront these issues as being essential to overcoming the  
design of the market, rather than just having them be like, 'at this moment this  
isn't happening because of specific, incidental things that are (indistinct) of  
25 the way that irrigators feed and costs etc.'

If that were to change in the future, we would then hope that it wasn't merely  
a matter of precedent, but rather that the capacity for a speculative market in  
water to emerge was just not allowed to happen through the regulatory.

30 COMMISSIONER DOOLAN: So basically, consider any implications for  
changes into the pricing entitlement regime to ensure that we do not  
incentivise speculative behaviour, is really the key point?

35 MS SIMS: Yes.

COMMISSIONER DOOLAN: And effectively the ACCC review is a review  
of 25 years of trading in the MDB, which is an appropriate time to look back  
and review, and what went well, and what didn't, and what needs to happen.  
40 So, I think we've been collectively lucky that that review is there, because it's  
very timely. But I do think that one of your points in particular is; we do  
need to actually look at different markets, land and whatever to not just  
develop a water market in isolation, but to take the best practice from other  
markets, and to make sure that we're exploiting that in any design features.  
45 And there are lessons from other markets.

MS SIMS: And in that vein; we are thoroughly endorsing that advice 7.3 to do with water registries. We're really grateful to the commission for highlighting that the registers are inadequate - I mean, watching the politics of the registry unfolding in New South Wales has been really interesting, trying to use those registers is really difficult. So, we've highlighted that we believe that the treatment of water that is analogous to real property in terms of public registration, public valuation, taxation, declaration of interest, transparency, and those other legalities - as you've highlighted in advice 7.3 - is really welcome.

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COMMISSIONER DOOLAN: Alright, well thank you. Have you got any other questions?

COMMISSIONER COLLINS: No, that's fine, I mean only commenting that your research going forward is that bear in mind outside the Murray-Darling Basin water markets are really fledgling and emerging. And whilst you might look at different entitlement regimes, to do it for a market like the Murray-Darling Basin would have huge transaction costs which would need to be factored into your analysis, where as in emerging markets I guess you've got more of a clean slate to look at different regimes and we'd be happy to look at any research that comes out.

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MS SIMS: Is there any particular catchment that, in terms of emergence, would be interesting to have work like this done for? I mean, we're a public research institute and we'd love to have the commissions feedback on where you think this kind of research could be most useful.

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COMMISSIONER DOOLAN: We have got a table in the supporting paper on water markets and trading, which shows where the other markets are, and also the - if you like - the level of activity in those markets. So obviously I guess southern Victoria, Gippsland market and - I can't recall off the top of my head. There's also some ground water markets which bring their own interesting challenges as well. So, it might be worth just having a look. At one stage, as Drew said, the Murray-Darling is the most complex in Australia, I actually think it's the most complex in the world.

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COMMISSIONER COLLINS: Yes.

COMMISSIONER DOOLAN: And we won't see that again because you don't have a basin with the same heterogeneity, the same level of connectiveness, high level of regulation and all the things that contribute to it. But we will see markets emerging in smaller local areas, and we are. So, yeah, having a look at that table gives you sense of where they are, where activity is happening.

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MS SIMS: Thank you.

COMMISSIONER DOOLAN: Alright, have you got any final comments?

5 MS SIMS: Just one final comment which is to say that, in our submission, we were endorsing the calls from others including the Institute for Water Futures, that in order for the NWI to be effective we do believe that there needs to be an independent statutory authority that provides it leadership as outlined by other stakeholders like the IWF.

10 COMMISSIONER DOOLAN: We do understand the call, we still remind people that an independent statutory authority cannot make decisions on entitlements, that's governments so - you know policy and water allocation are government business. Nevertheless, there's much to be said for independence in reporting, and auditing, and a whole range of issues. So, absolutely, thank you for that.

15 MS SIMS: Thank you very much.

COMMISSIONER DOOLAN: Thank you.

20 COMMISSIONER COLLINS: Thank you.

ASSISTANT COMMISSIONER WILL: Thank you.

25 COMMISSIONER DOOLAN: And at this point we'll take a break and we'll take morning tea break and we'll reconvene at 10:30 where we - sorry, I beg your pardon - 10:45 where we're due to hear from Environmental Equity Pty Ltd. Okay, thank you all.

30 **SHORT ADJOURNMENT** [10.27 am]

**RESUMED** [10.42 am]

35 COMMISSIONER DOOLAN: Hi. I'd like to welcome you all back again after morning tea to the first hearings on the Productivity Commission's inquiry into national water reform. So I'd like to call on Fiona MacDonald, the CEO of Environmental Equity Pty Ltd. Fiona, if you wouldn't mind  
40 introducing yourself for the transcript and then giving us some introductory remarks. Thank you very much.

MS MacDONALD: So in terms of introduction, what were you thinking of? I mean, I can tell you my qualifications or what - - -

45 COMMISSIONER DOOLAN: No, no, no. Just for the record that you're Fiona MacDonald from Environment Equity. That's all I need. Yes.

MS MacDONALD: All right. So my name is Fiona MacDonald. I'm the CEO of Environmental Equity. And some introductory comments. Basically I presume you have my written submissions.

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COMMISSIONER DOOLAN: We do.

MS MacDONALD: I am going to give you my qualifications because I would like you to know where I'm speaking from. I actually obtained law and economics degrees in 1985 and an environmental science degree in 2014 and I have since obtained a Master's degree in international law and international relations and a Master's degree in science research. So I believe I'm well qualified to have made the submissions I have made. My area of specialisation throughout my environmental science degree has been water resource management. I also have a Master's degree in water resource management. Sorry, forgot about that one.

So and my concern is that with the best will in the world and with years of effort, we are still not managing water resources in Australia in any way that is going to effectively conserve those water resources. I think that we need to - well, I'll go back a step. When I read the commission's report, my overwhelming impression was same old same old, basically. We're trying to ignore the elephant in the room and I've put that in my submissions. The elephant in the room being that once we damage or exhaust water resources, they are not recoverable. Sorry, up to a point they are of course because it's going to rain again, as we've seen recently in New South Wales. But once we damage it, once we make it unusable, the chances of recovering those water resources are non-existent. We can't do it.

And I think I said in my submissions, for example, in the Great Artesian Basin, there are groundwater resources that are millions of years old and that means they took millions of years to be accumulated. We're running them down at a ridiculously fast rate. Once we run them down, to reaccumulate those water resources is going to take another million years and so it's just not recoverable within our lifetime. And yet, as again I've said in my submission, it is absolutely the fact that not one single form of life is known to exist without access to water.

So we are not - in my view, the elephant in the room is that we are not treating water as the irreplaceable resource that it actually is. We're acting as if we can somehow go on using water effectively as much as we like, as we've done in the past, because we've had more than enough resources to deal with the demand and that just isn't the case. In Australia, we have hit a crisis point when it comes to water. There are numerous desalination plants already in existence. The Darling River regularly has no water flowing in it or inadequate water for the resources that are needed.



I've been doing research in the north of Western Australia, the Western Australian government is currently reviewing allocation and management of water in northern Western Australia and there is a lot of contention over just how much water is available. An AEM study was done in 2014 and interpretation of that AEM study is that we're already running down the groundwater faster than it can be replaced.

Now, since that study was done, a further study has suggested that things aren't quite to the crisis point that that study found, but that's something, that's a wakeup call. Aboriginal communities in the Pilbara are saying that the water available to the environment is diminishing. And mining companies and the government deny this but I have a lot of confidence in Aboriginal people and their understanding of the environment and so I'm willing to believe that that is quite possibly the case.

I think more research needs to be done to determine whether it is the case but it needs to be honest research, with a view to really understanding what water is available, how often we can draw it down without damaging the water resource and what the impacts of climate change are going to be.

In the Murray-Darling Basin, as I'm sure you're aware, it appears that the whole of south-eastern Australia and the very southwest of Western Australian is going to become drier, which means that we will have less access to water resources. In north of Western Australia at the moment it looks as if it's substantially going to remain the same as it has been but that's with not a great deal of confidence.

So my contention is we have to look at a better way of managing water resources and that is the contention in my submissions and that is my contention today. That was long introductory remarks.

COMMISSIONER COLLINS: No, no. It's appreciated. Thank you, Fiona. Look, I've made a note to myself. I just want to check whether it's my words or comes out of your report, was that you were critical that you can successfully balance the needs of the environment with those of the economy through using market forces?

MS MacDONALD: Yes, I am critical of that. I think we have - sorry, what I actually said in my submission was I'm not saying there's not a place for market forces but we place too much reliance on market forces and I don't know if you've seen my dinky little diagrams but in fact, as having been an economist for many, many years, that area below the equilibrium point is almost never addressed and yet for water resources, that area below the equilibrium point is absolutely critical because that means that there are communities and in this case the environment, which literally don't have access to water because they can't afford it.

And so because anything below the curve, below that equilibrium point, for consumers, that is the area where they can't afford it. So humans have to make informed choices about how they make sure that access is given to the environment and of course communities that fall below that point, because of our incapacity to survive without water.

COMMISSIONER COLLINS: All right. Thanks. Could I just make some comments I guess in response to yours? Firstly, the breadth of water management includes on the one hand water resource planning, institutional and governments arrangements, which define a consumptive pool of water for use and it's really within that consumptive pool we have the market is the key distributor of opportunities. So the market versus the economy is really not captured in the operation of the market per se, but primarily in the first instance in the definition of that pool.

So the market then is generally how we - we have a market system to allocate opportunities. Your diagrams, as you'll notice, supply and demand diagrams, they're not based on ability to pay but willingness to pay and that willingness to pay actually identifies opportunities for value for the community. So the market does a lot of work in eking out those opportunities for community benefit. So it plays a very important role within the consumptive pool.

So your key concern about the environment and you're right, there are limits on environmental assets and what we're doing with them, that's essentially a planning issue in the first instance, not necessarily a market issue. Do you accept that? Sorry, is the volume on?

MS MacDONALD: Muted myself so you don't get background noise but there's actually a baby crying in the background.

COMMISSIONER COLLINS: Right.

MS MacDONALD: Not my baby, I hasten to add. So no, I don't accept that and I think you're conflating water markets with economic markets and I think that we have to be really, really careful not to do that. I think there's place for water markets, I don't think it should have quite the importance that we place on it. I think the first step is to make sure that we are allocating water to its - and I made this distinction in my submissions. You know, if the distinction isn't clear, please get me to clarify because this is really, really important.

The markets allocate water to their highest return economically. That's not necessarily going to give the highest return for the value of the water that is being used and I think we have to start assessing water use on the basis of the highest value of water use and that includes the whole market and I'll just tell you why I don't really think that relying solely on markets is a good idea.

I read huge numbers of reports and media coverage and what have you of water resource issues and I have yet to see a farmer who thinks that we should be taking water away from the environment. Sorry, a regular farmer, not your big industrial complex, just ordinary farmers, out there trying to manage their farms. They know the value of water and they know the value of the environment for maintaining water resources. They live with it every and I've had farmers say to me, "Look, we know that we've got to look after the environment, we've been doing it for years."

It is the big agro-industries that have been pushing for more water being released from the environment and being given to them and I think the fact that they have been withdrawing water in the northern Darling River system, against their entitlements, is clear evidence of that and yet we don't enforce it. In my view and I don't mean to be offensive but, in my view, anyone who takes water to which they are not entitled is not stealing. In the same way as anyone going into a shop and picking up something that they don't pay for is stealing. And yet we literally don't prosecute people who are stealing water.

And again, we'd have to be really, really careful how we did that because I used the example of poor people in my submissions, poor people don't have access to water because they don't live in a household, they live on the streets. And so if we make it per se a crime to take water that you're not entitled to, we are excluding poor people from access to water. These are all issues that need to be sorted out and need to be sorted out soon because we are in a crisis when it comes to water in Australia and if climate change progresses in the way that's been projected at the moment, it's going to get worse, but we're not addressing the problem. Sorry, I don't mean to lecture either.

COMMISSIONER COLLINS: No, no, that's okay, Fiona. I mean, I just want to I guess get an understanding for I guess the boundaries on the market that we're discussing because the consideration of the broader value of using water for the environment, for social uses, for productive uses, is undertaken at a water planning level, which defines basic environmental regulated flows, it allocates water, in some instances its held entitlements and it allocates a pool of water for productive use, irrigation, industry, et cetera. And that's entitlements and that's traded on a market. So your criticism is primarily at that initial allocation process which defines the consumptive pool or is it the operation of the market within that consumptive pool?

MS MacDONALD: I think the market is useful up to a point but at some point we - because water is a scarce and valuable resource, we have to start deciding how we allocate it. And so we have to start - we've had environmental impact assessments for years and I said in my submission, there are problems with those and that's an issue for another day, but in fact we should be including in those environmental impact assessments an analysis of what the water is going to be used for and the return in terms of

use of the water. At the moment, all we do when someone puts in a proposal under an environmental impact assessment is look at what the economic returns are going to be.

5 For example, I had a look up in at - I think again I put this as an example in my submissions, at a proposal of Gogo Station in northern Western Australia. They want to withdraw water from the Fitzroy River system and Aboriginal people are strongly opposed to them withdrawing water from the Fitzroy River system because of the issues around environmental wasting and stuff like that.

10  
15 One of the proposals put by Gogo Station was that they would introduce cotton production. It wasn't anything they were saying was going to be a definite thing that they were going to do, it was just one of the suggested proposals. Now, if you do - I haven't actually - I think again I said in my submission, I'm using Python to analyse the historical climate data and the historical productivity data but I haven't yet worked out - I need to work out a Python program that weighs up the probability of a good season and the probability of a good cotton price and then work out how the probability of each of those can mesh together.

20  
25 But for Gogo Station, I don't think I need to do that because if you work out the probabilities of a good season, I can't remember my exact figures at the moment, but it's about one in five. And in order for it to be productive, you need at least one in three of seasons to be a good season. The one in five is sketchy as a probability but it's there and I'm willing to concede one in five. But for a person to grow cotton up on the Fitzroy, they need at least a one in three seasons which is going to return the highest value use, otherwise they're wasting their money.

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35 And what happens -and this has happened time and again in Australia, what happens is they put in all the infrastructure, they make all the expenditure, they say, 'Yes, we're doing this and it's great and we're going to bring in this amount of dollars and it's, you know, employ this many people' without any proof that that in fact is going to happen. And then they go away, do all their production, usually with much lower employment than they've alleged, and but because they've spent all this money, they then come back to the government and say, 'You've got to support us because if you don't support us, all of that investment is wasted'. And so taxpayers end up paying for the wasted resource use and by that time, often the water resources have already been damaged. They may not have been completely damaged and they may not have been permanently damaged, but they've been damaged.

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45 So we need to at that much earlier stage start honestly assessing what the returns to the water use will be as opposed to the economic returns, which are usually exaggerated anyway. And we need to change the legislation. I should just say I'm very, very well aware of the Murray-Darling Basin plan

and all of the stuff that goes around that, it's something that I've studied for years, so I do understand how the plan works.

5 Western Australia has only just introduced water markets, so they haven't - they're not fully developed in Western Australia. But before they become fully developed, this is a really good opportunity to make sure that the water is going to its best use, its best returns to use, not the best returns economically, which are not necessarily the same thing.

10 COMMISSIONER COLLINS: Fiona, I don't know that particular proposal you're talking about but could we lift the conversation I guess up to the National Water Initiative level, that's the focus of our reports are the National Water Initiative - - -

15 MS MacDONALD: It is but - - -

20 COMMISSIONER COLLINS: - - - which is seeking to provide the architecture for water management across the country. Within our report we discuss both at a planning level as well as for new infrastructure what the assessment needs should be, the need for it to consider economic viability, the need to assess ecological sustainability, the need to assess cultural and other heritage interests. So and we provide criteria and we discuss at length I guess what we believe needs to be taken into account when that balancing task is undertaken. Do you have any particular critique on the criterion and  
25 discussion we had in either of those areas?

30 MS MacDONALD: Well, I guess at the risk of being offensive, I guess my thing is same old, same old. I mean, we've been doing this for years and it's not working. Why isn't it working? Because we keep conflating the value of water in terms of its economic value for industry. And we have people who can lobby quite effectively, the cotton industry, and I have no problem with the cotton industry. They've done huge amounts to reduce their use of water, to reduce their use of pesticides. So they are actually out there trying to sort out problems that arise from cotton production. I acknowledge that.

35 But at a policy and a legislative phase, we need to take it back a step. We need to say that we are going to assess the best return to water use and I'm going to hammer this because I think it's critically important if we're going to manage water effectively. We can't just keep doing the same things that  
40 we've been doing really probably before but at least since the 1960s.

COMMISSIONER DOOLAN: So Fiona, that is the purpose of water planning.

45 MS MacDONALD: No, it isn't. No, it isn't.

COMMISSIONER DOOLAN: It is.

MS MacDONALD: No, it isn't. The purpose of - can I just say, the purpose of water planning is essentially to make all users happy. It is. You have a look at it. It is. Of course - - -

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COMMISSIONER DOOLAN: Sorry, I've spent my career in water planning and I do feel that that's an oversimplification.

MS MacDONALD: I agree, I agree.

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COMMISSIONER DOOLAN: They are there to balance environmental, social and economic interests. So if there are failures, we need to understand the failures but that is the purpose of water planning is to undertake that step that you were after. So if it's not doing it effectively, we need to understand more about what you consider to be the failures in that existing process because that is the step that does that higher level trade off at the allocation level. So I'd like to get your thoughts then on how that needs to be improved to do what you think needs to happen.

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MS MacDONALD: All right. You've said that the objective for water resource management is to balance economic, environmental and social uses. Yes?

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COMMISSIONER DOOLAN: Yes.

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MS MacDONALD: Yes, all right. You can't. You cannot balance environmental uses - - -

COMMISSIONER DOOLAN: Well, it involves trade-offs.

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MS MacDONALD: Let me finish.

COMMISSIONER DOOLAN: Yes.

MS MacDONALD: No, you cannot balance environmental uses against economic uses. All right. You just can't. You cannot give - and with all due respect, throughout the report you give higher priority to economic issues than you do to environmental issues. The reason you cannot balance economic and environmental issues is because there is no economy if you destroy the environment and we don't place any monetary value or we to a very limited degree do we place a monetary value on the services provided, including water, by the economy, by the environment, sorry. And so we persistently act as if somehow the environment and the economy are the same. I mean, not the same as in identity but the same as in value.

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The environment, particularly water, has a much higher value because it is irreplaceable and we have to take that on board and we have to give that a

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5 higher priority and again, I'm an economist. I don't agree with Friedman's economics, I think that his economics is off the planet, but I am an economist and I understand how markets work and I understand the imperatives of making sure that people have jobs and that people have access to economic stability for everybody.

10 But you cannot say that the economy and the environment are on par. They simply are not because once you destroy the environment, there is no economy and that is particularly true for water because each and every living thing depends on access to water. And there is actually heaps and heaps and heaps of evidence that a reliance on economic determinants does not work. We know it doesn't - - -

15 COMMISSIONER COLLINS: Excuse me, Fiona. Look, might I suggest that our - - -

COMMISSIONER DOOLAN: It might be in the word 'balance'.

20 COMMISSIONER COLLINS: Yes, that's exactly what I was going to say. I think our divergence here may be in the word 'balance'. So the word 'balance' as we are using it, I guess a better term would be trade off. And so there are trade-offs in water uses. Sometimes you can have complementary use but in many cases water use is not complementary and if you progress economic interests, you might go backwards environmentally and vice versa. I mean, so there are trade-offs.

30 We go through a water planning process at catchment, state and national levels to ask the questions about that appropriate trade off. Some of the results we've seen on the ground might suggest to some people that the balance is wrong, the trade-off is wrong, but nonetheless, we have to go back to the process and ask what is the error then in the process that's led to an outcome we don't agree with? Is there a fundamental problem in that trade off process? And that's what we'd like to hear from you, how do you think that trade off process can be improved to get what would be better outcomes?

35 MS MacDONALD: What I'm suggesting is the way the trade-off is dealt with is to require a proper assessment of the returns to water use after you've allocated water to the environment and that's not a fix. I recognise and accept that there is a lot of difference between exhausting water use and having lots and lots of water left over. We don't know exactly what the point is to which we can use water but in my mind that means we have to be very, very conservative in how we allocate water use.

45 Assuming we have to protect - (1) we have to educate. Everyone has to understand that if we exhaust the environment, there's no return. We cannot go back. I mean, we're just starting to understand that with climate change, we haven't got there yet and I very much doubt - the main time that we really,

really do do something about crises is when the crisis is so apparent that we can't not do anything. With all due respect, if we wait for that point with water, we've passed the decline point. We're gone.

5 COMMISSIONER COLLINS: Fiona, excuse me, but it makes - what you're saying suggests to me that you think the water planning process lends no weight to environmental outcomes. It's just carving water off for productive use.

10 MS MacDONALD: No. No, that's not what I'm suggesting. I applaud the idea that we have environmental water. What I'm concerned about is that there is a lack of understanding of the value of water and so we quite cavalierly dispose of water. And you cannot possibly deny that there's been a very, very strong push from industry to - and in fact I think they did reduce  
15 the allocations of water to the environment.

So and that may have been - and I don't believe it was and I think it was at the behest of industry but it could have been on very sound scientific research that that reduction was made. My recollection is that scientists said, 'No, this  
20 is ridiculous and that's going to cause environmental damage'.

So until we have a commitment to taking the word of scientists as its point of best possible information today, we are going to go nowhere. As long as the economics is given the same weight, in terms of its valuation, as science, then  
25 I can't see how we can possibly allocate water effectively to the environment. But even leaving that aside, once we've allocated water to the environment, we then have a pool of water that is available for use for whatever purpose.

In order to determine the best possible use for that pool of water, there has to  
30 be a process whereby we decide if what the water is proposed to be used for is going to return the value for the water use that is being proposed. And it's certainly not unknown for companies to exaggerate what they say the returns to any use of anything will be.

35 And employment is a classic example, through most AEIs, you go along and have a look - EIA, sorry, you go along and have a look at most EIAs, the amount of employment that they're going to provide almost never eventuates. So what I'm saying is if we are going to allocate water effectively, keep in  
40 mind that any water we allocate away from the environment is allocating it away from what it's already adjusted to, the environment, I mean.

Now, it seems to be the case that the Murray-Darling Basin has adjusted to a lot of the withdrawals that are being made. It's reached some sort of new  
45 equilibrium. But if you increase withdrawals and the idea at the moment is to reduce withdrawals and I understand that the government is buying back licences, I think that process is ongoing but perhaps not, but if you increase



that at the behest of the economy because the economy needs it, then you're going to disturb that balance.

5 COMMISSIONER DOOLAN: But I think, Fiona, I'd like to make the point that that's sort of not happening. What we're seeing is a lot about greenfields, which we would agree. So in catchments that are not fully developed, the concept of taking the approach that you've outlined, particularly taking account of climate change before you define the consumptive pool, and then ensuring that the consumptive pool is not given away through auctions, is the proposed model.

10  
15 Trouble is when you're in fully allocated catchments, in the large urbans and the Murray-Darling Basin, and the focus there is at least trying to improve it and potentially reduce the consumptive pool in those overallocated catchments, not provide new entitlements, they're fully capped. And the question is should those caps be reduced further?

20 So to my mind, some of the policy is in place to do what you would want it to do and what I'm trying to and we're trying to get at is if you perceive failure in that policy, then we need to understand where the actual failure is because in developing catchments, they do set aside water for the environment based on scientific advice. They absolutely define the consumptive pool. We're suggesting they should do that with an eye on climate change, so that would reduce it further.

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30 And then current policy is that any of those are to be auctioned which would expose the highest economic value for that consumptive pool. It's very different, acknowledged, in fully allocated catchments, where there's a legacy and people are working their way through it, but those are also not the catchments where new entitlements are being granted.

MS MacDONALD: Why do you say that an auction will give the best return to water use? On what basis do you make that claim?

35 COMMISSIONER DOOLAN: The current - this is where there is a consumptive pool that has been set aside and there is no full demand for it, the current policy says trying to get some value for that, use an auction. So that is the - - -

40 MS MacDONALD: No, no, that's not answering my question. I'm asking you why do you say - because this is the crux of the issue, in my - - -

45 COMMISSIONER DOOLAN: Because there is no demand, Fiona, and you don't - do you - - -

MS MacDONALD: There is no demand in the - - -

COMMISSIONER DOOLAN: In some of those areas. Absolutely.

MS MacDONALD: Sorry. You're actually wrong. There is a demand. There is a demand from the environment. But we have - - -

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COMMISSIONER DOOLAN: That's been set aside already.

MS MacDONALD: Just let me finish. Let me finish. No, no, no. No, no, no, no. And this is where the misunderstanding is arising. An environment is in balance with the water that it has available to it. When we take water away from it, it has to reach a new balance. It does have the capacity to reach a new balance up to a point.

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And so what you're actually saying is we are going to take some water from the environment up to the point that it can reach a new balance. I don't have any problem with that because I acknowledge that we need water for industry, we need water for farming, we need water for human consumption. We need water for all of those other necessary things that we need to fulfil. But what we need to recognise is that we are taking water away from the environment. All the way down the line. Not just up to the point where we're saying this is all the environment needs.

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And once we start taking water away from the environment, we have to be satisfied that the water that we're allocating to other uses is the best use for that water. And at the moment, how we're measuring that is by saying - this is purely an example because I've been working in the area of cotton, this is no disparagement of the cotton industry. As I said, I have a lot of respect for the cotton industry.

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But for example, cotton producers come in and say, 'Look, we can earn \$60,000 if we have this water available' and a dairy farmer comes in and says, 'Well, I can earn \$40,000'. So you say, 'Oh, the cotton farmer's going to get the best value because that's \$60,000, that's higher value than \$40,000'. But what if we in the future - I don't know, this is purely an example out of thin air. What if in the future it turns out we actually need to produce more food than we do need to produce more cotton? Then that's not the highest value use for that water. We need to have some mechanism for deciding what is the highest value use for water and - - -

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COMMISSIONER COLLINS: We do have a mechanism, Fiona. We do have a mechanism.

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MS MacDONALD: What is it?

COMMISSIONER COLLINS: In a catchment where there's a market established, the market does that process of identifying the highest value use. We'll come back and discuss that in a moment. In a catchment where we

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5 don't have a market - sorry, in a catchment where we haven't got a market established, we do have that problem you speak of about different groups might suggest what their value is and we're saying, 'Well, that's not good enough, we need to have an auction process where we expose their willingness to pay and true values being reflected in that'. So that's our process, it's a market economy, we believe there's value in it. Unfortunately, Fiona, we're just out of time now.

10 MS MacDONALD: Run out of time.

COMMISSIONER COLLINS: So we're not going to be able to take this any further. So thanks very much for your submission and for appearing today.

15 MS MacDONALD: It was my pleasure. Thank you very much for hearing what I had to say. I'll keep - - -

COMMISSIONER COLLINS: Cheers.

20 COMMISSIONER DOOLAN: Thank you.

MS MacDONALD: - - - putting my argument, by the way.

COMMISSIONER COLLINS: That's okay.

25 COMMISSIONER DOOLAN: Of course. Of course.

MS MacDONALD: I just leave, is that the idea?

30 COMMISSIONER COLLINS: Well, you're welcome to stay on and listen to the rest but we need to now turn to another speaker.

MS MacDONALD: Yes, yes. No, no, I understand that. So I'll leave. Thank you.

35 COMMISSIONER COLLINS: Thank you, cheers.

COMMISSIONER DOOLAN: Thank you. Our next speaker is NFF.

40 COMMISSIONER COLLINS: No, no, the - - -

COMMISSIONER DOOLAN: Sorry, we've just - sorry, we do apologise. We've heard that NFF are actually, sorry, not able to make this timeslot and we'll be, what rescheduled to 4.15. Yes, all right. So at this stage then, so I do apologise for that, at this stage we'll take a break. Our next scheduled submitter is Alan Rothacker at one o'clock. All right. Thank you.

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COMMISSIONER COLLINS: Thank you.

**SHORT ADJOURNMENT**

[11.17 am]

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**RESUMED**

[12.58 pm]

10 COMMISSIONER DOOLAN: Thank you very much. We're now resuming the hearings for the Productivity Commission Inquiry into National Water Reform. I'll just remind people that if you're not speaking please ensure your microphones are on mute. We'd like to actually welcome Alan Rothacker in person to the hearing. So Alan, we'll hand over to you.

15 MR ROTHACKER: Thanks Jane. I'm pretty nervous as I've never done this sort of thing before so I hope it goes all okay. Yes, I'd like to thank the Productivity Commission for being able to make a submission and come and present before it. I was astounded to get half an hour because there's a lot of people interested in water policy and yes, I thought it would be totally  
20 booked out but clearly it wasn't.

COMMISSIONER DOOLAN: No, I know but we've got a lot of submissions and then people take the opportunity to come – either way, the input is really valued.

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MR ROTHACKER: If I say something stupid or controversial or you disagree with it, interrupt and we'll have a short debate because I mean that's the best way to do it and yes. I didn't read everything in the report but I read a lot of it. In page 5 and 6, that's six Overarching Informed Principles, I'll  
30 read them out because maybe someone's watching and it needs repeating. (1) Is the strong capacity to deal with droughts, floods and shocks to adapt to a changing climate, (2) Fit for purpose management and regulation, (3) Use of the best available information and decision making, (4) Innovation adapting management, (5) Effective Community Engagement and (6) Information  
35 Provision that enables that engagement. Just out of those principles should form the basis of water management in every basin, rural, urban, irrigation throughout Australia and I urge that this Commission adhere to those principles.

40 I'm a former irrigator from Victoria on the Loddon system and a water service committee rep with Goulburn Murray Water. So my knowledge is mostly based in Northern Victoria and the Murray-Darling Basin.

45 Now, between pp. 21 and 39, the Productivity Commission has drawn on the data what was published on the state of the climate from the BOM and CSIRO. Using homogenised data and cherry picking factors to create a narrative, they do not provide a solution to the water management challenges

that are facing Australia. As once believed the climate on Planet Earth controlled by a Sun producing varying amounts of energy onto a Planet that it all rotates and tilts with other Planets around that Sun. Earth has it's its own Moon, which also rotates in orbits around Earth in different cycles. These cycles, variations and vagaries result in a land with drought and flooding rain with its beauty (indistinct) cyclones, bushfires. Dorethea Mackellar 1906 and then Mr William Newton wrote 'I am Australian' and at the two lines, 'On the drought and flooding rains when the rivers when they run'. Now the many people atmospheric CO2 is now to be the common driver. I don't know whether you think that's a fair comment or not but – no comment.

COMMISSIONER COLLINS: Alan, we have gone through your submissions. So I mean if you could just sort of give us a couple of dot points, I think the critical, (indistinct) because it's really that we get to the main key points you want and make sure we've interpreted it correctly.

MR ROTHACKER: Right O. 18.6 'The Iluminar Cycle. Now I've done Mr Ishiro Yasuda 300 years of South American data. A lot of that apparently was tree rings and he noted that cycles. Now if you backtrack there, yes three cycles, El Nino and La Nina. Now that's a bit suss. I followed it through and I'm not sure of how that one works out for Australia. Second graph which is sea surface temperature in the Indonesian sea, tide after five years that is unmistakable really a terrific correlation yeah. You've got there the 2010 flood, 1993 wet, 74 wet, 56 wet and if you looked at those graphs that have the inflows their target didn't fail in the 1930s, 1917 hit the target again. Then when you do the troughs, they all correspond terrifically with the sequential droughts we have. Now that says to me that the Moon drives a lot of the cycles we have.

As I mentioned the 30s failed to deliver so did the 1900s and then you can commercially get a period like say the 1980s when it should not have rained but it did a lot. So you can make the cycles happen, but the cycles don't always deliver. That's what that precipitation and alternatively – now also I've got this after I put the submission in, a Mr J (indistinct words), whatever the hell that is, 2009 in September, and they note that the pictures of the ocean you can see the ocean temperatures change as it moves across the ocean. So that's sort of again you've got El Nino and La Nina that follows, and there was another one with the heading, 'Ocean diapol', there again I'll read this out: The Australian high was strengthened in the Philippine sea and the cyclone was weakened since May/June 2019. This inter-hemispheric sea level pressure gradient 9HGPG not only generates the north wind cross equator and the Australian continent which is crucial for the IAD development in the ocean diapol. Not only for 2019 IAD which gave us the drought, VIPHG (indistinct) is a good indicator for almost all the IV events in history.

Now that needs to be followed up with BOM and CSIRO because all you hear from BOM and CSIRO is climate change and that's what's causing everything but that sort of research shows it's not always the case and you can lead to they make their conclusions. And I've got a graph here with the IAD for example 2019 and that was very, very drought and that was now the Japanese (indistinct) they said it was a positive in the ocean diapol. I'd never heard it. The Bureau of Meteorology mentioned on the (indistinct), but the Japanese do. The research is not good enough to explain why things are happening.

That one there 2016, you have a negative IAD, three frames, storage is in terrible state in the start of 2016 that rescued it out of nowhere these things happen. Terrible drought through 2006, 9, 10 there so like these cycles happen but if one happens there, it can affect Australia, other side of the ocean, how they interact, who knows?

So the point I'm trying to make with this submission is that you're going to get droughts and floods and currently there's – the system is being totally overloaded with the amount of allocation in the environment. The new downstream of the Barmah Choke with all the nuts and grapes and olives and that sort of thing. So the system is put under massive stress, and you're going to have a period where you get a sequential drought and then after five years there'll be nothing left. Now the Goulburn Murray in Victoria they had a terrible drought in the Millennium drought and most – they were still getting small allocations at the end of it, because at the start of the drought they put a system of the storage left. You had a minimal environmental flow and then a larger flow if the rainfall and the inflow was there.

Now that hasn't happened. I was on the Loddon that system operated. We had a multi timer process we agreed on a system and now July one 50,000 megalitres goes to environment regardless of whether it rains or not. It also had a trigger put in at 50,000 megalitres and the one unit – they just went straight through that (indistinct words) and, you know, the system went down to about 35,000 (indistinct). Now the thing holds 250,000 (indistinct) they run it down so low and take the risk and I just cannot work it out and your principles 1, 2, 3, 4 should be happening and that's what did happen with Goulburn Murray water but now they don't manage it, it's these other organisations do. And similar with the Murray Valley Basin Commission, the water just goes down the river – I've put in this submission, there's no losses tabulated. Like would you know the losses of how much water is lost each year?

COMMISSIONER DOOLAN: No, but it's been raised in a number of cases that people don't know. You're the relationship between losses the whether it's a dry year or not.

MR ROTHACKER: Yes, and now I've also bought up regarding the lower lakes. I've been on that. It just hasn't made sense for 20 or 30 years that you pour water into a man-made lake, you're washing freshwater or sand away and it's a priority, well it's not but it should be managed differently. Now I  
5 know – I'll ask you why that wasn't bought up in your - - -

COMMISSIONER DOOLAN: This isn't about Murray Darling Basin so the Commission does have to look at the implementation of the Basin Plan on a five yearly basis, but the first time we did that was in 2018 and the next time  
10 is 2023. This is definitely not about Basin plan but it is about national water reform, so across all of Australia and it is about if there's lessons to be learnt in the Murray-Darling, what are those lessons for the rest of Australia. So that's where we definitely will not get into the lower lakes, it's not the remit, it's for 2023. Okay.

15 MR ROTHACKER: Right.

COMMISSIONER DOOLAN: But there are lessons which we've tried to pull out, like the issue of losses. So that's come up and it's around system  
20 managements and it's around transparency and providing information back to the entitlement holders and the public and the lesson we've tried to take from that is, in very highly developed catchments like Murray-Darling, and there's not many of them around but there is others, you know, the Melbourne catchment, the Hawkesbury-Nepean, (indistinct words) that those system  
25 managers do look at those elements and become – have to demonstrate that they are managing that system to best effect and how do they do that, what's the information that people need to see, what's (indistinct words) to be confident that the system is being managed to best use. So that's the lesson we've tried to take out of that Alan, for the big picture.

30 MR ROTHACKER: Yes. Well I'll just say the bigger picture is 2007 or 8, Melbourne was running out of water, so it races to get water from the Goulburn system which is the Murray-Darling Basin. (indistinct words) systems caught all the water for the previous two or three years down the  
35 lower lakes, they might not have any water left for Melbourne. So it's all integrated.

COMMISSIONER DOOLAN: It's all integrated, yes. Melbourne retailers which (indistinct words) but if they were, they hold high reliability  
40 entitlements 75 gigs so they would get whatever the allocation - - -

MR ROTHACKER: But like again, Thompson Dam hasn't overflowed so why aren't we putting another two or three hundred thousand megalitres in there, saving that, taking the water from the Goulburn system, Melbourne is  
45 much more secure, you get the drought well you're not panicking are you.

COMMISSIONER DOOLAN: True. Optimise water use for what you've got.

5 MR ROTHACKER: Now people make rules for political events not for what's best for the system.

COMMISSIONER DOOLAN: Well people tend to make, in droughts - - -

10 MR ROTHACKER: The droughts is panic. You need to do it before the drought.

15 COMMISSIONER DOOLAN: Yes that's right. We need to do it before the drought and that is I think some of the principles we've tried to have here is that you do the planning for the drought. You do the planning before the drought in water planning, and in water planning you will get the low flow in particular. What are you meant to do in drought; what's the environmental protection; what's the highest, you know, critical human needs. In urban planning you do the same. You do your planning. Outside of a drought, you work to your restriction policy through; you work through your optimise, you know, supply situation but the key to it as you say is to do it outside of a drought.

20 MR ROTHACKER: Yes, and the problem is, you can spend X hundred million dollars securing it, it's not needed for 20 years.

25 COMMISSIONER DOOLAN: Yes.

30 MR ROTHACKER: Yes, you're spending the same amount of money, three years later, gee wasn't that a good decision. So it's a no win situation in a lot of these things and, you know, you've got to look at, you know, graphs like that where history repeats.

35 COMMISSIONER DOOLAN: And we believe that in a planning you've really got to understand what happens in the extremes. Understand what happens in those lowest years on record. So we have tried to take that message out of everything and put it in. If it's not as clear as what you make it, we can clarify it further.

40 MR ROTHACKER: Yes.

COMMISSIONER DOOLAN: Because we do believe that that is the next leap for the NWI, is it really needs to (indistinct).

45 MR ROTHACKER: Okay. I'll just backtrack there and say (indistinct words) Murray-Darling Basin. Now it looks rather dry there, wet there and in between there, yet the inflow there is shocking. Now where's the water going? That's Murray-Darling Basin (indistinct) I've even got it in there.



COMMISSIONER DOOLAN: You have great thanks.

5 MR ROTHACKER: So like – now I've driven up to Queensland. You go past these massive (indistinct).

COMMISSIONER DOOLAN: Is that Murray Darling or is that the Southern Basin?

10 MR ROTHACKER: Well it's got annual rain for Murray-Darling Basin, Bureau of Meteorology. And you've got to know how much it rains, is water getting to the storages, then where's it going.

15 COMMISSIONER DOOLAN: Also the seasonality is really critical because, you know, in Southern Victoria where looking at reduced autumnal rain and that means the catchments aren't – the sort of moisture store is not full, you don't get as much runoff. And I think we've seen that in Victoria haven't we, over the last 20 years?

20 MR ROTHACKER: Yes, it was also a cycle. There's a bloke call Kevin Long that says that there's a cycle of changes 10 days a year. So over a long period that might change. In the Loddon we have a report on how much water was flowing and (indistinct) and you've got all these small hobby farm dams, and there's thousands of them, they take those first initial flows,  
25 they've got to fill up, then the storage starts filling. Now, you've got Perth, why – there'd be a lot of dams before the catchment of grabbing the water before it gets there.

30 COMMISSIONER DOOLAN: No, not so much in Perth.

MR ROTHACKER: Not so much in Perth?

35 COMMISSIONER DOOLAN: No. In Perth they use the superficial ground water (indistinct).

MR ROTHACKER: Yes.

40 COMMISSIONER DOOLAN: In Perth, that really is a change in flows, surface runoff anyway.

MR ROTHACKER: Yes. But yes for something like the Goulburn system that's far less relevant.

45 COMMISSIONER DOOLAN: Yes, in your system there has been definitely proliferation in farm dams over the past 25 years and I think that's one of the areas too that we've gone in those highly allocated systems like yours. That

interception activities like farm dams, they need to be bought into that and told up front.

5 MR ROTHACKER: But again, that's fairly hard. You know for someone that's got a dam, say, 'Mate, you've just got to dig a hole in that and let the water go'.

COMMISSIONER DOOLAN: Compliance is - - -

10 MR ROTHACKER: How is that going to go politically?

COMMISSIONER DOOLAN: Well compliance is really tricky as you say. And (indistinct words).

15 MR ROTHACKER: One other thing I made a big point of is, decisions are made by, I'll call them new order managers where that decision just cannot be challenged. I gave an example of Barmah Choke where police are going down the river flooding the forest in a drought. Now everyone (indistinct) big news in rural media, yet it was totally ignored in the metropolitan media  
20 but there was no process to say, 'Well what the hell has happened'.

COMMISSIONER DOOLAN: Okay.

25 MR ROTHACKER: Stakeholders can jump up and down, now how do you fix that up?

COMMISSIONER DOOLAN: Well I think the key thing is their having - the decision to release the water was environmental water I assume, so it's - -  
-

30 MR ROTHACKER: Well I think it was a drought and you've probably got environmental water - - -

35 COMMISSIONER DOOLAN: The main system water goes out to Lake Victoria.

MR ROTHACKER: - - - yes that plus the new lot of water for the development downstream of The Barmah Choke.

40 COMMISSIONER DOOLAN: So a combination of - - -

MR ROTHACKER: The combination of environmental water and - - -

45 COMMISSIONER DOOLAN: - - - South Australian water and water going down to entitlement holders.

MR ROTHACKER: Yes.

COMMISSIONER DOOLAN: Yes.

5 MR ROTHACKER: The point I made in that submission is that a decision  
has been made to grow all these high value crops without thinking about how  
are we going to get the water down there first without causing (indistinct)  
like that. And then I also made the point where it's all cold water, native  
fish, totally different to what carp is. So you're running a system that  
benefits to carp environmentally rather than natural fish. Yes, I've  
10 mentioned the – but the Keelty report you can make a submission and then  
they give a final report, but there's no way to question the validity of that  
report. It's good that I can come here and interact with you people, which is  
what should happen. Yet that didn't happen in that sort of report and I think  
there was a lot of, well I'll say stakeholders it's a more general term but,  
15 irrigators who are just totally frustrated. They feel they've got genuine  
concerns about the way the system is run yet there's no process where you  
can complain. It's just – call it a 'closed loop'. I don't know what you think  
about that.

20 COMMISSIONER DOOLAN: Look, I think we watched the Keelty report,  
we watched Sefton and we're certainly take – read what they've said. We've  
tried to take on board some of the issues that people have raised but tried to  
translate them in – well what would need to change to deal with that. So  
some of it is about the process of the community engagement absolutely.  
25 How in planning and in management, some of it is about, as we said earlier,  
the system manager and in that particular case, the River Murray Water being  
very open about providing information on what people have asked questions  
about and be in a position to answer those questions, being responsive, and  
part of it is government putting the information out there, so as far as making  
30 it publicly available.

So we've tried to, sort of, better engagement for a start; better information  
out there; increased responsiveness as principles and that's what we've tried  
to put in our report on for all governments to hopefully take on board.  
35 Because the other thing we have to be quite cognisant of, you're operating  
Murray-Darling Basin, the highest level of development, highly managed  
system, every drop of water is owned and debated, but the same principles  
have to apply as the systems in Western Australia where there's very little  
development but, you know, they're signing up to a future if you like. So  
40 that's what we tried to do Alan, is to take – they seem to be the key messages  
coming out of the concern that we see in the Murray-Darling Basin and what  
will – that's been expressed to Sefton and to Keelty and that they're reflected.  
We've tried to take that and go well that's what we would turn into  
principles. Now whether that's sufficient, but that's what we've tried to do.

45 MR ROTHACKER: I just think that there's a difference between consulting  
and then being able to question the decisions that are made.

COMMISSIONER DOOLAN: Okay.

5 MR ROTHACKER: I find that's the most frustrating part; the way the systems are operating. You know, everyone consults but you need to be put under the griller whether the decisions you are making are the right decisions or they can be argued, but that's what happens. And I think I mentioned in my report, you need to have totally unambiguous rules for that how to happen.

10

COMMISSIONER DOOLAN: Yes.

15 COMMISSIONER COLLINS: I think it will always be local interpretation. We've spent some time in the report talking about best practice engagement and recognises that the (indistinct) sometimes is just information deficient, but this decision making you need more than information provision, a two way conversation etc, there's an area in the report that covers that issue [recording malfunction].

20 COMMISSIONER DOOLAN: So its in the system integrity part in particular and that bit in particular has got the – where we drew on some of that experience and it's about system managers in this case (indistinct) would be yours, but in Melbourne it would be Melbourne Water. Being responsive so when people do raise questions like 'the losses', like 'where's the water gone', 'how much carry over is there and who', that it gives the answers, and  
25 being in a position to go, 'Here it is and we're happy to share it and there's nothing being hidden here'.

30 MR ROTHACKER: But where the systems at the moment, is that you have changed management from what it was 15 to 20 years ago, they're going to hold onto their patch, they won't like to be challenged and you need to have a system recommended to the government that allows that to happen.

35 COMMISSIONER DOOLAN: Yes. I think it's people should be able to always question decisions and get the answers.

MR ROTHACKER: And I'm not just talking about a meeting - - -

40 COMMISSIONER DOOLAN: (Indistinct) mean changing (indistinct).

MR ROTHACKER: A really fair dinkum question and answer period that goes for a day because things get very easily fobbed-off nowadays and yes there's certainly a lot of frustration.

45 COMMISSIONER DOOLAN: And that has to recover.

MR ROTHACKER: Yes. Now, I've got five minutes left. Look I think, I was bought up in rural Victoria and just to see the community has been more shredded, is as good a word as any, population wise and it's just been incredible. Rules change and different players come into the market.  
5 Whether that's good long term or not, we don't know. I'll make the point that the original designer system, we had southern basin and the wealth was spread over a wide geographical area. Now it's very concentrated and sort of, (indistinct) right words, but it's as good a word as I can think of, is that the smaller rural areas are just totally missing out. How you fix it, I don't  
10 know but the (indistinct) I hope I've made constructive suggestions - - -

COMMISSIONER DOOLAN: Thank you.

MR ROTHACKER: - - - and as I say just to have the courage to put what I  
15 think are good suggestions into place and I just wish you all the best that it comes off.

COMMISSIONER DOOLAN: Well thank you. Thank you very much and we really do value your input. Thank you for coming here today in person.  
20

MR ROTHACKER: I wouldn't have done very well with Zoom. A bit better like this I hope.

COMMISSIONER DOOLAN: Well thanks very much. We really do  
25 appreciate the input and the concern (indistinct words).

COMMISSIONER COLLINS: Thanks Alan. I appreciate it.

MR ROTHACKER: Thank you  
30

COMMISSIONER DOOLAN: We'd like to welcome Adam Lovell and Stuart Wilson from Water Services Association of Australia. Adam and Stuart do you want to take us through your key points please.

MR LOVELL: We might start with a quick overview and a quick summary  
35 of the points we might expand on during the time. Can I just check what time we've got. I'm not saying we have to take the whole time but - - -

COMMISSIONER DOOLAN: We've got until 2.15.  
40

MR LOVELL: 2.15, no worries. I think we should be good. So, we'd like to congratulate the Productivity Commission on a really good and comprehensive report, as usual, like 2017, and things have progressed, which is good to see, albeit slowly. But, we are also encouraged by, I think, a  
45 broader view that it is time for a modernised National Water Initiative. If nothing else, the events of the past two years have shown, through climate extremes, just how important it is to rethink the way we're managing water,

particularly for the urban areas. So, obviously we're coming at this from an urban services perspective.

5 I think a few things that come to mind is what does the future look like? And  
the one thing that we've never really tackled very well in Australia is we've  
had stormwater sitting out there on its own, largely managed for flooding  
purposes off roads and transport structure which is absolutely a call for  
consideration but it's also a vastly unutilised resource and we think some  
10 really strong thinking about the way stormwater is managed, in the total  
water environment, needs to be considered and probably a little bit stronger  
than what you might have put in your report. So, we've got some suggestions  
around that.

15 We've also got some thoughts around indigenous water services that we'd like  
to put up for a short discussion. We'd also like to talk about governance of  
new and modernised national water initiative because that, I think, is where  
the hard yards will be politically, and I think that's a really important aspect  
for us to discuss. I'll probably handover to Stuart at that point in time when  
we get into benchmarking too because benchmarking is a huge part of what  
20 we do, on behalf of our members. But, more importantly, the National  
performance report, which is part of the current national water initiative, we  
think has immense value but, sadly, that value doesn't seem to be seen by  
many other people. So, how do we encourage that value because it is  
actually an incredible data set, considering the length of time at 166  
25 indicators, that's an incredible data set to have? So, enormously beneficial  
for researchers, the policy makers, for the industry to general community.  
So, there's a bit of work to happen there.

30 And then, I should reverse that and go back to when we talk about  
governance of a new NWI or a modernised NWI, what does it look like from  
an incentives perspective or where do incentives come in?

35 So, they're the five key points but I am happy to take any other questions you  
might have and, sorry, we haven't got our submission in yet but, well, I think  
we did a pretty good extensive job on our first one, so I'm happy to take  
questions on that as well.

COMMISSIONER COLLINS: Sure.

40 MR LOVELL: Okay. I might start off on integrated water recycle  
management but, in particular, stormwater. We strongly believe that  
collaboration will get us a long way, but it won't get us potentially the whole  
way. I've just been out at Sunshine this morning, at the launch of greening  
the west mark 2 for Western Melbourne and just an incredibly successful  
45 programme where City West Water and Melbourne Water have come  
together and leveraged local councils come in and create fantastic green  
space, greening the west, greening the pipeline is an adjunct to that

programme. But, when we look at it across the country, it's limited in its scope in the fact that if the utilities aren't there leading, not managing, not necessarily owning, but leading, then these things don't happen and it's because it's really hard to corral, you know, the different policy perspectives of stormwater management from the various different councils operating and you've got 30 - I'm not sure how many there are in Melbourne - but 40 plus just in Sydney, and it's just hard work.

And collaboration can bring people to the table, but it doesn't create the handshakes because people leave, organisations leave and come and go. And so, we strongly think that we need to keep the doors open. We don't have any direct ideas about what should happen, but the doors should be open to things better than collaboration or more than collaboration. And so that would be institutional and structural reform and could be, for instance, that in green fill areas a utility might take over completely as the waterway manager. In other words, manage all water, their drinking water, sewerage sanitation services, recycled water, desal, waterways as in stormwater management and waterways for amenity and growth.

So, that's probably one end of the spectrum, the far end of the spectrum. But, certainly the doors should not be closed to that because it's a model of getting things done and I like to remember, Jane will probably remember, Jim Gill who had the OBK model or one butt to kick model.

COMMISSIONER DOOLAN: Yes.

MR LOVELL: Which he strongly believes them, and I think there's a fair bit of merit in that and that's where some organisations around the country are moving to.

So, in terms of governance around integrated water cycle management, I think we need to be really open about the models that could happen and that might feed in down the track to what incentives look like for governments to get involved in a modernised NWI. I've applied for governments to get involved in a modernised NWI. I think the question would be why? Now, one question might be why but at Federal level you'd be interested in this and I think very strongly it comes to Australia's competitiveness and Sydney Water have done some work in the past with Deloitte's to show that many of - we've been looking about immigration and let's face it immigration is going to be tipped upside down as it is and it's going to look different with COVID, you know, post-COVID world. And well over 10% of people cited clean waterways and clean beaches as one of the top attractions to coming to move to Sydney. Why shouldn't it be for Melbourne or for Brisbane or for Perth, or for any of the capital cities, or even a regional town, that that goes for Australia's competitiveness, the best and the brightest actually cite the way we manage water as a key thing going forwards?

Secondly, health and wellbeing. And I think the industry does a really good job with its - an excellent job, in fact - with its 24/7 business of core services of clean safe drinking water, and managing sanitation services and we can argue about some of the challenges around that. But, I think when we look at the benefits of mental health and physical health, air quality through urban cooling, and greening. Plenty of people have said to me, you know, 'How do we actually cost how many mental health beds that saves?' And I think that's the future. I genuinely think that's the future. That's the common policy in issue because too often, in the past, we've said it's too hard, it's too hard to cost. We know it's a benefit but it's all too fuzzy. But, I actually think that's, and I personally think, that's where the industry is heading, its actually talk in a bigger preventative health, population health, from setting about the benefits it provides beyond its full business.

So, integrated water recycle management, from what you've said and the research report from last year from the Productivity Commission was brilliant and we strongly support all the recommendations. So, we would sort of like to pick that up and, as a stakeholder, go forward and help in the contest of ideas about policy, put our views forward to that, what it might require going into the future.

COMMISSIONER DOOLAN: Are you happy to take a question before you move onto the next one?

MR LOVELL: Yes. Take a breath. Do you mind if I grab a drink.

COMMISSIONER COLLINS: Yes, certainly.

COMMISSIONER DOOLAN: Just because you mentioned it.

MR LOVELL: Yes.

COMMISSIONER DOOLAN: That potential for institutional change. You actually had that arrangement in Melbourne Water. Do you notice a difference across jurisdictions, therefore, where you have got different institutional models, collaboration is still required, is it easier with the model like Melbourne Water than you might see elsewhere?

MR LOVELL: I think so and I think that's, you know, Melbourne Water is sort of the leading line in that, or the model ground the way Melbourne Water operates waterways is for the leading lines in that respect. But, what we're lacking at the moment, of course, is that any of the economic regulated - well, this is not a blame scenario, but what we don't have at the moment is that equality of where the economic regulators are about funding and pricing of integrated water cycle management. We see that right across the country, and I think that the Productivity Commission highlighted it last year, we still highlight it as an issue, it comes up in a lot of discussions. But, again, like



that discussion about health benefits, beyond drinking water, that's another part of the regulatory ambitions that I think we really need to try and work on over the next five to ten years. Because, Melbourne is seen internationally. All my international colleagues say, 'Melbourne is known as one of the world's most liveable cities because of its waterways, because of the way water is managed'. That comes up all the time and I think that model that exists here is definitely the next step, but I think there are steps beyond that.

COMMISSIONER DOOLAN: Thank you.

MR LOVELL: So, I think indigenous.

COMMISSIONER DOOLAN: Indigenous.

MR LOVELL: Yes. Indigenous water services, we're pleased that you pointed it out, but we do see a lot of grey area and we still believe that there's a lot more work to be done in this space. We don't have immediate answers to put in front of you, but we would strongly encourage you to put it as a really top priority going forward. The reason that we say this is that, and I want to talk about governance in WA again in a few minutes' time, it's the opaqueness of this decision making, and we hear this from so many different angles. Government agencies, both Federal and State regulators, nobody actually - but there's not a really clear link between the outcomes we are trying to achieve in indigenous water services, and you've identified having a basic level of service, which is absolutely right. But, how do we get there? And who actually makes those decision?

So, I think the problem that we have at the moment is that there is so much grey area about who is making those decisions and we've heard that if a Minister visits a certain site, then all of a sudden that site and that community receives some money. Who knows whether that is the right decision or the wrong decision. So, I think we really, like all other parts of the urban water industry, we really need to get past the opaqueness and be very clear and transparent about the decision making that's put in place. But, it's much broader than that for indigenous water services as well, because you've got the central services of energy and, well, energy is probably the other key one and housing, in particular. But, it's thinking differently about the way the servicing happens and that includes potentially, you know, a new focus on skills and training for local community members which we've never really got to either. Some areas are but, again, why is it patchwork? Okay. I guess that's the key question. Why is it patchwork? Why are some areas doing it really well but other areas are not picking up on that and learning from that and driving towards a better outcome for all indigenous Australians? So, we would strongly encourage you, and we've been doing some work on this too, we would strongly encourage you to include it as a major point, but requiring further work, because the answers aren't necessarily there.

The other one, before I hand over to Stuart, I'll give myself a breath, I'll just take some water. So, governance of the national water initiative. We were, at the time, we were very strong supporters of the National Water Commission for reasons, the key reasons were that it brought stakeholders together. That was the number one reason that we thought the National Water Commission was a good independent body to oversee the national water industry. It brought the money to the table, but I thought most - or we think - most successfully through the raising of national water standards programme. That was a really successful programme and that's ideally what it's like.

COMMISSIONER DOOLAN: It was \$1.2b.

MR LOVELL: That's a lot of money. But it was successful, and I think the key - one of the issues here would be, you know, is that clear delineation of who makes policy and that clearly is government and government owners and government overall. But, also I think we need to, as stakeholders, as utility owners, as general community and customers, that those ideas need to be in the contestable, they need to be in the public sphere. And as it currently stands, there is, again, coming back to my theme about opaqueness, that we have no idea about what the National Water Reform Committee is talking about, nor the Urban Water Reform Committee, and I think there are plenty of stakeholders, including ourselves out here, who would be very interested in engaging to discuss what urban water priorities are looking like going forwards.

So, when we propose a governance structure for the national water initiative going forward, it's not necessarily to create policy, but it's to almost build a gap across some of those key challenges. What are the regulatory gaps and what needs to be built to bring stormwater into the urban water environment? What are the infrastructure priority settings that you would have put in place that are transparent, that Infrastructure Australia might use, for instance, or they might be part of this scenario as well? So, it's that middle ground where you've got overall government policy but then utilities actually delivering to customers.

So, utilities, I would argue, have done enormous amounts in opening themselves up to delivering customers' centricity building customer centric services. Still a long way to go. So, if utilities are able to do that, why can't government open up the policy direction and building that gap between the doers and the planners to the policy makers. So, it would be a really key consideration in the way we think about the governance going forward.

COMMISSIONER DOOLAN: So, effectively, did I get it wrong? Governance policy, but there is a feedback where the discussion around implementation issues arising continues to be had to both inform policy - - -

MR LOVELL: Exactly.

COMMISSIONER DOOLAN: - - - forward and help understand the (indistinct).

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MR LOVELL: I think we've got lots of ideas.

COMMISSIONER DOOLAN: Yes.

10 MR LOVELL: At that point, I might take a breath and Stuart- - -

COMMISSIONER DOOLAN: Oh, okay. Stuart.

15 MR LOVELL: - - - did you want to tackle maybe incentives first and then maybe talk about benchmarking NPR?

MR WILSON: Maybe benchmarking first. Maybe on the benchmarking because, as Adam picked up at the start, that was one of the original elements of the national water initiative and that is a really good illustration of why a national approach is necessary. Without some, you know, every State utility has their own data but without that sort of national coordination and national agreement, that everybody would report, I think 70 utilities reports against an NPR indicators and that's sort of something that just can't be done without a new NWI or it can't be continued without some form of NWI with a national agreement.

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So, the NPR has been a really important source of data. It does its own benchmarking on a deeper but more limited scale. There's no way we get 70 utilities participating in our benchmarking. And some of the areas of need for performance in improvement are the regional areas and the current review of the NPR indicators is looking at widening that set to utilities of less than 10,000 people and, again, that will, of itself, necessitate some national level of agreement to bring in up to another 150 smaller utilities in Queensland and New South Wales.

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So, the NPR has been a really good data set but, like the NWI generally, it needs modernisation in two particular areas. The customer indicators really, you know, 15 years ago we were still an assets business, we weren't on the customer centric journey and the customer indicators are probably the weakest element of the current collection. How quickly the answers a phone call or how many a lot of the complaints indicators aren't really that relevant anymore. What is relevant are things like customer satisfaction and customer value and this is the sort of the holy grail of collecting national customer information. It's done by some of the larger jurisdictions, the Essential Services Commission and IPART because it's not something that utilities could just pull out their bottom draw, here is our custom satisfaction stats. It's something that you would need an annual survey, operated by the BOM or by

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somebody of individual customers in different areas. That would be a powerful statement. It operates in Victoria and I think Victoria publishes data on how all the utilities in Victoria perform against its key customer Metrix and it's quite a powerful incentive for improvement and change.

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The other area is the financial indicators. Again, they're just not a modern incentive indicator. So, this is a body of work that the Bureau of Meteorology is undertaking now with consultants and none of this is new to you. I know it's reflected in the report. If anything, in your draft report, we think you could go a little bit further in outlining the case for a broad, deep and modern set of performance data, because that's certainly supported by the industry. I think the report makes reference to a better financial rate of return indicator. I think there's a whole range of areas where we can do better and maybe, I don't know, in a new NWI the Bureau of Meteorology took on this function when the National Water Commission was abolished, and it has done a great job of keeping this going and they're undertaking the indicator review. But, maybe they need a little bit more assistance directed to the new national water initiative from the Commonwealth or a commitment from the Commonwealth to really provide the resources to elevate this to the position that we think it could take.

So, that's the benchmarking challenge or performance information challenge and it's really, in terms of your data report, it's just really elaborating on what's there to reflect the current situation.

25

In terms of incentives, we can't help but notice that in previous national reform efforts, that the Commonwealth has played a catalyst role in providing incentives to get stats on board. We appreciate that the Productivity Commission can't form an incentives regime or dictate an incentives regime to government policy makers. We're happy, as the Water Services Association noted, to put it on the record, that we think our message to the Commonwealth is that it's an important part of a new agreement and we also like to, I guess, put on the record, and maybe this is something that the PC could take up, is that the rationale for incentives is that there is a prize in national water reform. There's a prize for the national economy. There's a prize for the productivity of cities and regions and, as Adam has really talked about, there's a big prize in terms of liveability and wellbeing.

All of these, you know, work at the Commonwealth level, as much as at State level, and maybe by outlining sort of the - some indication of scale, there are gains on the table here that can accrue across the economy and that could provide a rationale to get all players to the table and incentives could play a part of that. And we note that you've sort of gone a little way down the incentives route and we agree with everything you've said there. I think they were the main points, Adam, I was going to raise.

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COMMISSIONER DOOLAN: Okay. So, they're the hearings.

MR LOVELL: Yes.

COMMISSIONER COLLINS: Might I ask a question first?

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COMMISSIONER DOOLAN: Yes. Go for it Drew.

COMMISSIONER COLLINS: Sure. Adam, you were talking about indigenous communities that opaqueness of some of the funding that goes into the communities. We outlined there the funding model, in our draft report, based on the fine basic level of safe and reliable water and then a movement to CSO style payments rather than ad hoc grants. I would think that approach would go a long way to address your issues around transparency. Would you agree or are there other issues?

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MR LOVELL: Definitely would, definitely would and I definitely agree with it. I guess what I would like to - my thinking about it is there are a number of other stakeholders that are involved in it that don't see - that are actually not part of that. And I'm talking about infrastructure in terms of NIAA. I'm talking about some really important groups that actually have no access to that. They ask me these questions and I don't really know.

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The common feedback that we get, and by the way this doesn't even apply just to indigenous communities.

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COMMISSIONER COLLINS: No, no.

MR LOVELL: There was a story last week of a remote community in - did you see that one?

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COMMISSIONER COLLINS: No, I didn't but I mean - - -

MR LOVELL: South of Mt Isa, four of their five bores are out because of uranium, you know, that applies to remote communities as well. But we do - the most common feedback that I get from talking to stakeholders and our members is that it's different in each State and that nobody's learning from each other and what a good model is and there's certainly a lot of distance between who's actually making the decisions and how those decisions are going in on the ground as well.

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So, I think, definitely what you've suggested is definitely a very good mechanism which we would strongly support. But, I guess, one step further is how do we bring all the other stakeholders that provide important decision making roles in here and they just don't have the right information to hand?

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So, that's - - -

COMMISSIONER DOOLAN: I follow that because I do think it's really interesting with Federation that it's only through inquiries, like ours' and peak bodies like yours', that national actual sort of umbrella has it all going across at the national level. So, we're in a somewhat privileged position. But, from  
5 your perspective in those remote communities, where do you think there is best practice? I know you said it's patchy but to a large extent the answer is sometimes going, well, here is what you want, lets analyse why and what can we do? So, from your perspective, with your umbrella across these areas, where is best practice?

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MR LOVELL: Yes. So, it's interesting, I won't say what I think best practice is because I'm not sure we're actually there yet. But, there's two situations that come to mind and are relatively recent. I was lucky enough to be invited up recently, power and water 18 months ago opened up a new water  
15 treatment facility at Borroloola which is mostly an indigenous community, some - because there's a lot of grey nomads that go through there, that are brand new. It's actually - the whole - there's about 900 people that live in this space and they actually constructed the whole water treatment facility in Darwin and trucked it down, it's about a 1,200km drive. That's not the most  
20 important thing.

The most important thing is that there was 18 months where power and water went out there and time and time again they got schools involved, they built this community engagement. That was the nuts and bolts of it. There was  
25 community engagement and what impressed me so much was that you could hardly see - I mean this is pretty hi-tech, I mean it's very hard to treat water, you've got a carbon dioxide treatment of - non-regular treatment, but just covered in the school children's artwork. And that was a way of getting them to school. So, they saw at the local school, an uplift of attendance from two  
30 days a week, roughly, to three-and-a-half, something like that, if I remember correctly. I mean, I can get those numbers to you. But, that's roughly, something's better than nothing.

COMMISSIONER DOOLAN: Yes.

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MR LOVELL: So, the nuts and bolts of that that one was community engagement and quite common that and recognition from local community that that is part of the infrastructure. So, they own it because they've covered, their artwork covers it.

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The other one is a different model that Water Corp started to take on in the Kimberley where they don't just go typically it's been the Department of Housing. I think they might have changed now to Department of Community  
45 Services but, nevertheless, one of the two that used to operate some of the water and sanitation services in the Kimberley. Water Corporation went to the government, so the government said, 'We think we should start running

it'. And so that's just a very strong transfer of institutional responsibility basically.

5 So, that's another model which made decision making a lot clearer. So, it's on Water Corp now to deliver those services which is, in the past, has been a mixture for indigenous community of being Department of Housing, Department of Community Services, Department of Energy, whatever it is, Western Power I think it is.

10 COMMISSIONER DOOLAN: Place the best solutions.

15 MR LOVELL: The best solutions, that's right. And, again, going back to that sort of training and skills development, you know, Sue Murphy used to - she was the CEO of Water Corporation a while ago it used to do her head in that her operators would be driving in hundreds of kilometres for indigenous communities and see the power guy waving on the way out. Now, that's the type of inefficiency that you - I mean I know it's pretty - it feels like lower hanging fruit, but it seemed crazy that that was going on.

20 So, I won't say, Jane, that they're best practice.

COMMISSIONER DOOLAN: Sure.

25 MR LOVELL: But, they're the different types of things that have changed more recently that we could look into more deeply.

COMMISSIONER DOOLAN: Yes. And each situation is different, but we all know it's an issue, but the next stage is like - - -

30 MS LOVELL: That's right.

35 COMMISSIONER DOOLAN: Okay. In terms of the NWI governance, it is helpful to define the current gap and to put some flesh around where stakeholders feel, the old National Water Commission, if you like, served a purpose that is no longer there.

MR LOVELL: Yes.

40 COMMISSIONER DOOLAN: And that they are recognising a significant gap. So, I think that it's really as we said. It's the feedback. It's the conversations between reviews just how things are going back and forth between people and policy makers.

45 MR LOVELL: Yes. And again, specifically as the Productivity Commission did last year with that review of water recycle management, which was a great piece of work, but that should be a continuous process, not integrated

water recycle management, well you could - but, you know what I mean.  
Like, it could be - - -

COMMISSIONER DOOLAN: Yes, it could be ongoing.

5

MR LOVELL: And again, you know, we've just published this report or statement to say that the water issue will be at zero by 2050 which is - I mean I guess you could say is, as (indistinct) said, he can take that home to the bank and we'd like to be more ambitious at this point of view. But, there are  
10 challenges in this that to be more ambitious you've actually got to go back and engage with your customers and say, 'Well, what are you willing to pay for it to be more ambitious?' So, it's not sort of, you know, - - -

COMMISSIONER DOOLAN: Yes, yes. Let's all be happy.

15

MR LOVELL: Let's all be happy, exactly. So, again that's almost a discussion again that you could have at a stakeholder level. You know, how are we tracking on this? What does this look from a Federal, State, Local Government point of view? So, that's one.

20

And then, the other one, which I think the industry is really heading towards is a circular economy. And, again, this is one of the big challenges we have, I think, in terms of modernising the National Water Initiative, is how much are we part of other sectors? There's a huge push at the moment, not huge  
25 push, there's huge interest from our members on hydrogen and Water Corporation have actually started to build a plant at Woodman Point on the Hazer Process, Sydney Water, many utilities down here are talking to researchers about different ways of generating hydrogen, not only for local consumption but more for export potential as well, because, we've got the best feedstock.  
30

So, again, that's not something, you know, in the 2004 National Water Initiative it was great because it really set out almost like a baseline of the way we think we want to manage urban water. But these possibilities are  
35 offering - these are not far away. It's actually shorter than 20 years away. I'm thinking of a national water initiative that might a horizon of 20 years but possibly many things will be delivered before then. So, how do we build into the modernised NWI these possibilities in other sectors that we didn't before?  
40

COMMISSIONER DOOLAN: We're also hoping to build in a more regular review.

MR LOVELL: Yes.

45

COMMISSIONER DOOLAN: We can take account of changing circumstances.



MR LOVELL: Yes.

5 COMMISSIONER DOOLAN: Okay. So, Stuart, if I can just turn to you.  
Benchmarking, it is a valuable tool. So, that's the first thing. It's a valuable  
tool in terms of people being able to do competitive comparisons,  
communities having transparency, the industry itself being able to measure  
10 across jurisdictions because - and the industry feels that it's useful but, what  
we have now, needs to be completely modern to match what we consider to  
be a modern water utility. Yes?

MR WILSON: Yes.

15 COMMISSIONER DOOLAN: Okay. Fair enough. So, can I just ask too,  
I know your members do not generally include the small utilities in New  
South Wales and Queensland, but there's been a focus for this authority, and  
this inquiry, two things - The benchmarking does need to be extended to  
them, yes, so we do get a complete picture at the national level, yes. Would  
20 it be the same level of indicators or would it be perhaps a subset?

MR WILSON: No. It would be a subset of indicators. This is something  
we've emphasised to the BOM in its review. Two reasons really. Just the  
capacity of the - is much more - it's just very different to the large utilities. If  
25 it was the same indicator set, you would be limiting ambition - - -

COMMISSIONER DOOLAN: Yes.

MR WILSON: - - - in comparison because, you know, you are not going to  
30 get customer satisfaction data from very small country towns. You need  
section sizes. We think we might not be able to even get it below 50,000  
residents, 50,000 people. But, should we be including that in the - looking to  
have the ambition to include that in the National Performance Report? We  
think we should. So, I think it would be quite a different data set for you if  
35 utilities were less 10,000 were brought in. It would need to be a cut down set  
of indicators. It would really have to focus on what was put forward.

But I also think there are probably thresholds that are also relevant beyond,  
you know, between 10,000 and 1.8m there are other thresholds that are quite  
40 important as well. So, I would see, you know, the current classification is  
major, large and something and small. You know, you may have several  
levels of reporting and that's not to exempt WSAA members. It's really to  
say the larger metros are actually thinking of perhaps we need more  
indicators reported around assets to understand assets perform. You just  
45 couldn't expect that count at the small end. So, I would see it existing, you  
know, evolving quite significantly and it would limit the ambition if you  
were having a common data set across everybody. You might have, you  
know, 10 common indicators but then, you know, quite - - -

COMMISSIONER DOOLAN: Consistent principles but fit for purpose.

5 MR WILSON: Correct. It's also we acknowledge that there are some  
problems in regional areas. Do you want people to focus on actual solving  
water quality or reporting on the matter? If resources are an issue in the  
small utilities, where do you want the balance of their efforts to go? Now,  
good data allows for good decision making but really, if utilities aren't  
10 complaining about compliance burden with the NPR, but it would become a  
real burden if that same expectation was transferred down to the (indistinct).

COMMISSIONER DOOLAN: Okay.

15 MR LOVELL: Can I just add?

COMMISSIONER DOOLAN: Of course.

20 MR LOVELL: Stuart, would it be fair to say, I mean I don't know where the  
discussions landed on, because we don't talk about this every day, but where  
the discussions landed on the sustainable development goals. Because the  
industry is still very serious about the sustainable development goals and all  
of these reports that were published still actually fit in within the framework  
of the sustainable development goals. There's been some talk about  
25 incorporation into the National Performance Report. In many respects you'd  
like that to happen, but I think we also are cognisant that you don't want to be  
chopping and changing these indicators all too often as well. So, have you  
got any comments to make? I wanted to put on the table that we are still  
absolutely serious about the sustainable development goals, its how we  
actually go ahead now to measure our progress against them.

30 MR WILSON: I think that is on the table. What I think, this review finishes  
in 2022, a new indicator set in 2022. My view is that we will do a lot to  
clean up the indicators, have some new indicators, get rid of redundant  
indicators. This view might not be shared by the BOM, but I don't think we  
35 will have come to the end of the road and will have a - I don't think the job  
will be finished by the end of this review. I think there's issues, not just SDG  
issues, but developing potentially water quality indicators, potentially water  
security indicators, where I think there will be an ongoing almost research  
programme to work that through. One-hundred-and-sixty-six indicators, it's a  
40 lot to work through in a fairly short space of time.

45 So, I think, and we've released work on potential SDG indicators and there's  
really interesting work on potential water quality indicators. At the moment  
the indicators is just the number of zones that comply or something but are  
there more leading indicators? There's a lot of good ideas and work. I see a  
potential work programme embodying these things, not losing the potential  
for this and affordability indicators, wider SDG indicators, all should remain.

Do I think we will get there later this year? If the ambition is there, the industry will be behind it. But, it's a big industry and a lot of people to coordinate, particularly when you talk about the idea of just let's bring in an indicator set for utilities of less than 10,000.

5

So, I think this is just one clear Commonwealth agenda item to help, you know, to evolve this process going forward. I think benchmarking sounds assertoric, but it really is - it can be fundamental to the transparency of the industry and it's almost its public shop face.

10

COMMISSIONER DOOLAN: I remember full well trying to, as part of a group, putting together the first report on SDG 6. We looked fabulous in terms of meeting it because we didn't report on anything less than 100,000 connections. So, you know, that's what you would expect. Okay. I don't have any further questions.

15

COMMISSIONER COLLINS: No, that's been terrific, and we certainly value your detailed submission earlier on and discussions. So, it's been good.

20

COMMISSIONER DOOLAN: Any further comments?

MR LOVELL: I think we've covered all major points. Yes, I think we've had a really good discussion and we thank you for your engagement through the whole process.

25

COMMISSIONER DOOLAN: Thank you very much. And more generally, we are going to take again a short afternoon tea break and we will be back at 2.30 and at 2.30 we will be hearing from the Northern Land Council Land Council, in Northern Territory, with Bridie Velik-Lord. So, we will convene at 2.30 in this room. Thank you very much.

30

MR LOVELL: Thank you.

35

### **SHORT ADJOURNMENT**

COMMISSIONER DOOLAN: Bridie, can you hear us? Excellent. Okay. Look, I'd like to welcome everybody back into the public hearings for the Productivity Commission Inquiry into National Water Reform. We'll move straight onto the Northern Land Council and we welcome Bridie Velik-Lord and Bridie, hi, long time no see.

40

MS VELIK-LORD: Hello. Does that sound alright? Can you hear me okay?

45

COMMISSIONER DOOLAN: Yes, we can see you and hear you.

5 MS VELIK-LORD: Great. We're not as practised in the whole Zoom thing up in the Northern Territory which is a very good thing but great. Thanks for the introduction. I was just going to give a sort of five to ten-minute spiel about our submission and then open up for questions and discussion if that's okay.

COMMISSIONER DOOLAN: Yes. Thank you.

10 MS VELIK-LORD: Great. So thank you again to the Commissioners. I – my name's Bridie Velik-Lord and I'm an Environmental Policy Officer appearing on behalf of the Northern Land Council in the Northern Territory based in Darwin.

15 I'll just start first off, by recognising that I'm calling in from Larrakia Country today. I pay my respects to elders past present and emerging in the Northern Territory. I would also like to pay my respects to elders of other First Nation Groups who may be part of the public hearings today advocating for policy and legislative reform in the water space.

20 Thanks again to the Productivity Commission for the opportunity to be part of this process. And for seeking input from traditional Aboriginal owners, Aboriginal communities and stakeholders on the National Water Reform program.

25 The Northern Land Council represents more than 36,000 Aboriginal people in the Northern Region of the Northern Territory. Our vision is for a territory in which the rights and responsibilities of every traditional owner are recognised and one in which Aboriginal people benefit economically, socially and culturally from the secure possession of their lands, fresh waters, seas and intellectual property.

30 This is the vision that we use to underpin our submission to the Productivity Commission and I'd also like to just take the opportunity to acknowledge all of the strong and proud Aboriginal people in the Northern Territory who have worked tirelessly for decades in the water space. These people continue to seek the best outcomes for Aboriginal Territorians and continue to push for Aboriginal rights and interests to be front and centre in all water management decisions that affect them.

35 40 It's certainly a testament to all the work that our First Nation's communities have been doing across Australia that the Commission recommends a renewed National Water Reform agenda that includes a prominent role for securing Aboriginal and Torres Strait Islander people's interests in water and it's certainly something that the NLC is really encouraged by, so thank you for that recognition.

Our submission focusses in two parts and it makes 23 recommendations for consideration by the Commission. Part A of our submission highlights some particular areas of the existing National Water Initiative that's by our assessment not being effectively delivered in the Northern Territory. These, we've certainly focussed on the areas that have a direct impact on Aboriginal people's rights and interests in water and they include a large proportion of water extraction, licensing decisions that are made in the absence of water planning processes and therefore, in the absence of effective engagement with communities and stakeholders, including Aboriginal people.

We're seeing a continued over-allocation of water resources in the NT. This is having a real outcome on recently legislated water rights for Aboriginal people through the Aboriginal Water Reserve. We've seen a decline in water advisory committees in the NT over recent years, for example, in 2017, when the last assessment was done, we had seven committees with a total of 80 people and that covered over 65,000 square kilometres of the territory. As at March 2021, we have one committee in operation. Twelve members, four of whom are Aboriginal people and that covers approximately 9000 kilometres squared and based on the information that's available on the web, they haven't met since late 2019.

The NLC is also obviously, as we heard about before, concerned about water quality issues and infrastructure in remote communities. The majority of Aboriginal – remote Aboriginal communities in the NT are water-stressed communities and are reported to have potable water supply that does not meet one or more health guideline parameter. So certainly encouraged to hear the last presentation from Water Services – the Water Services Association, talking about indigenous community water supplies and management. Certainly, we have heard about the Borroloola Water Treatment Plant upgrade which is fantastic. We have a lot more communities that are really struggling out there, so that's a big concern for our constituents.

So Part B of our submission focusses on areas where NLC sees the greatest change that the greatest change is requires under a new renewed National Water Reform agenda where we call for stronger recognition of Aboriginal and Torres Strait Islander people and the need for future water reform to commit to meeting the rights, interests and aspirations of our First Nations communities as well as recognising the impacts of climate change that will be felt by Aboriginal people.

We recommend strengthening the Government's arrangements of a future water reform agenda to ensure that Governments are accountable to their constituents and that real outcomes are achieved. We certainly see that water planning processes need to be improved in the territory and we need to see a future water reform that ensures that water planning, which includes

community and stakeholder engagement is undertaken. And needs to be done in a meaningful collaborative and effective way.

5 Our submission highlights major deficiencies in the current water planning approaches which results in, as I've mentioned, the majority of water licensing and management decisions not being informed by water plans or water planning processes.

10 In terms of environmental water, we believe that planned environmental water must be afforded the same protection. Transparency and independence in decision making that is suggested to held environmental water. This is critical in unregulated systems where the only water available to meet environmental and other public benefit outcomes is considered planned environmental water. Certainly, what we have in the NT is all planned  
15 environmental water.

20 Many remote Aboriginal communities are adversely affected by a lack of safe and secure water supplies. We call for water supply improvements to be priorities for funding. We also seek that the commission, in finalising its report investigate and address existing barriers that result in adverse impact to Aboriginal people's rights and interests in water. We've spoken about it in our submission but from our perspective, the barriers don't appear to be a willingness and capability of Aboriginal people to be part of water  
25 discussions and decision making. Rather, the barriers appear to be within decision makers in the NT and this is where there continues to be limited ability for Aboriginal people to be engaged as part of decision making processes that directly affect them.

30 We seek that through a renewed Water Reform Agenda that the principles of self-determination are fostered and committed to and ensure that First Nations communities are empowered to make decisions for themselves. We also seek that all engagement activities with Aboriginal people are undertaken in accordance with principles of free, prior and informed consent as per national and international requirements.  
35

40 So, yes, once again, we'd like to thank the Commission for the opportunity to appear today. We hope that our advocacy will be useful in guiding a future Water Reform Agenda. If there's any questions that I can't answer today, I will take them on notice and provide a written response back to the Commission as soon as I can as well.

COMMISSIONER DOOLAN: Thank you.

45 MS VELIK-LORD: Yes. Thanks.

COMMISSIONER DOOLAN: Okay. I've got a couple of questions. Are you happy for me to go?

COMMISSIONER COLLINS: Certainly.

5 COMMISSIONER DOOLAN: So effectively, your submission, the two parts is important, because some of it goes to our assessment in the Northern Territory and provides further information. So we might end up with some staff members following up some of that just to cross-check information because the assessment needs to be as accurate as possible. But I particularly wanted to follow up some of the – your point that in 2017 there was seven  
10 committees and 80 members and now there's one. Were they the committees around Water Planning, Bridie, or were they – and so, once the water plan was done, then they would disband it and and no longer necessary? Was that the theory?

15 MS VELIK-LORD: Yes. So there's a – there's various reasons. So they are called – the Water Act in the NT provides for the ability of the Minister to appoint or establish and appoint members to a Water Advisory Committee. And so for the most part, Water Advisory Committees are put in place for the development of plans.

20 In some cases, they stay on to oversee the implementation of plans and that's certainly something that NLC and our members who have been part of planning processes for upwards of 10 years trying to get a plan declared, in some cases they're disbanded as soon as the plan is declared and there's no  
25 ability for involvement in implementation.

So the specific committees - we have had a number of plans declared and those committees have been disbanded, but we also have the Howard Groundwater System had a committee in place for a number of years.  
30 They're tenure expired. The plan hasn't been developed and there's no committee currently in place for the Howard Groundwater System and certainly a number of water extraction licenses are being issued in that system.

35 Yes, the implementation that – the Minister has the ability to appoint and appoint members to a committee for a range of purposes but it seems that implementation is currently lacking, so we don't have the – the only committee that's currently in place is the Mataranka Committee and that's been going, I think, onwards of 10 years and there's no plan for that system  
40 yet.

COMMISSIONER DOOLAN: Okay. So taking the point that it can take some time, but when a plan has been developed, your constituents, your members would like to see in general the committee continue with some role  
45 in implementation, is that - - -

MS VELIK-LORD: Absolutely.

COMMISSIONER DOOLAN: Because it enables discussion, communication and input. Is that a reasonable - - -

5 MS VELIK-LORD: Yes. Yes.

COMMISSIONER DOOLAN: Yes. Okay.

10 MS VELIK-LORD: Yes, absolutely.

COMMISSIONER DOOLAN: Fair enough. So the other one was, in your submission, there were a number of areas where you refer to decisions being made on reasonably large licenses. But in areas that don't have a water plan?

15 MS VELIK-LORD: Yes.

COMMISSIONER DOOLAN: So suppose the framework we've been looking at is, you know, fit for purpose, so if there's undeveloped areas where there's not a lot of utilisation, you know, you might need a license to extract, for example, some broad diversion limits, before - - -

20 MS VELIK-LORD: Yes.

COMMISSIONER DOOLAN: So what I took from your submission is that even if you're in that area, at the moment there's no way for consultation with traditional owners in that process? Once you enter a sort of – the concept of we need a water plan, we'll have a committee, it may not be perfect, but at least there is a process. Is that the message? In that area, there still needs to be some mechanism or consultation with traditional owners. Is that - - -

30 MS VELIK-LORD: Absolutely. So these are areas - as you'd appreciate in the Northern Territory, we have a large proportion of Aboriginal land under the Land Rights Act as well as Native Title Holders. So a lot of these areas when you talk about, you know, under-developed systems and things in a lot of cases are on areas that have Aboriginal interests. And the Aboriginal people are the majority of the population there.

40 So certainly a mechanism for people to be engaged in those processes from – that's from an engagement perspective with the importance of water plans, but the other things that water plans do around defining a resource, undertaking research and investigation into the resource capacity in – yes, in the NT we're talking, the majority we're talking about groundwater extraction.

45 So understanding the resource, its characteristics, and the sustainability of that are other functions that planning processes facilitate and they happen



after we've seen lots of water extraction license issued. So for the plans that have recently been declared in the NLC region rather than the Central Land Council Region, so we've had the Ooloo Water Allocation Plan which was pretty much at capacity.

5

A little bit of water available in the Aboriginal Water Reserve. The Katherine Plan is – Katherine system's severely over-allocated. Berry Springs is up to allocation as well. Mataranka is still underway. So Howard Groundwater System that doesn't have a plan in place is also recognised as being severely over-allocated. So the times that – the time taken to develop plans while water extraction licenses are issued means that by the time we have those plans in place and the resource is defined and the sustainability of it is determined, it's too late for a lot of our systems.

10

15 COMMISSIONER DOOLAN: Okay. No, thank you for that. It's probably a point we hadn't quite grasped, you know, as well as it brought it into stark relief anyway. So thank you for that.

Can we move to the drinking water issues as well? If that's okay with you?

20

MS VELIK-LORD: Sure.

COMMISSIONER DOOLAN: Are you - - -

25

COMMISSIONER COLLINS: Yes, (indistinct words).

COMMISSIONER DOOLAN: (Indistinct) are you good with that? So - - -

30

MS VELIK-LORD: Are you looking at a particular page there, Jane? Sorry? Just for - - -

COMMISSIONER DOOLAN: Yes, I know. I'm looking at - - -

35

MS VELIK-LORD: Okay. All right. No worries.

COMMISSIONER DOOLAN: Sorry. I'm looking at some - - -

MS VELIK-LORD: Yes, no.

40

COMMISSIONER DOOLAN: - - - questions that staff has gone, 'Make sure you ask these questions.'

MS VELIK-LORD: All good. Yes, all good. Sorry.

45

COMMISSIONER DOOLAN: Yes. All good. So I think basically, firstly, we heard from WASO that Borroloola seemed to be best practice. Is that

your understanding as well? Would that be regarded by the local people as a good project? Best practice?

5 MS VELIK-LORD: Look, I haven't spoken specifically to our constituents in Borroloola about that project, but it's certainly something that I can follow up on, if that's of interest.

10 I think we often hear from our constituents about poor water quality in communities. There is certainly a challenge of raising issues and getting those issues addressed. So for example, we had a constituent contact us, turning on the tap and the water is brown in colour.

15 Now, that community is way out Victoria River district, you know, not close to any sort of services. And I guess that the challenges of going is this water okay for me to drink, is it okay for my family to drink there and then, is a real challenge of having service providers who are not in community for the most part or if there's issues that need to be fixed, there is a – quite a process to go through to get leaks fixed and issues addressed. A lot of it by the nature of working in the Territory, a lot of it by nature of the water quality that's been – of the water that's being provided and the natural quality of that water.

20 But it's certainly something that we are – NLC is looking at in greater detail in terms of remote community water. It's an area that is of high interest for us in terms of remote housing as well, so anecdotally we have heard that in some communities that our programs as part of Room to Breathe and addressing the overcrowding issue, there's an inability of houses to be built because there isn't enough water in those communities to build additional houses.

25 So there is certainly a sort of roundabout that people get on, in terms of how can I fix – how can I build houses when I don't have the water to do that? And then you've got some significant leakage issues in some communities. How do you get those leaks seen to so that you can increase your water volume so that you can build more houses.

30 So I think in answer to your question, I'm not entirely sure, specifically, about Borroloola. It is one of a number of communities that we have and I don't, you know, power and water, and the Indigenous Essential Services have absolutely their work cut out for them. And things cost a lot of money in the territory to address these. So if it's, I guess, if it's something that is of interest to the Commission, we can certainly facilitate some discussions with remote communities, even, if that would be of interest.

35 COMMISSIONER DOOLAN: Look, I think it's more – it's not up to us to solve this Government's - - -

40 MS VELIK-LORD: Sure.

5 COMMISSIONER DOOLAN: - - - will have to and it's sort of what we get into a national water initiative. But it was if there was some obvious best practice that everybody was happy to point to, to say look at this, this worked.

MS VELIK-LORD: Yes.

10 COMMISSIONER DOOLAN: Then that's – that's particularly helpful. So, no, I don't want to create any more work. But if there was any particular case example.

MS VELIK-LORD: Yes.

15 COMMISSIONER COLLINS: Could I follow up with a question on that – those, Bridie. To the extent that there are – what we call aesthetic issues with muddy water and the like, brown water.

20 MS VELIK-LORD: Yes.

COMMISSIONER COLLINS: I mean, is there dialogue with the utility or the Government on what an acceptable service standard is for those sort of issues?

25 MS VELIK-LORD: Not – my feeling would be no, in a simple answer. So from – for a couple of factors, so in the Northern Territory, we don't have a Safe Drinking Water Act. So there is no legislative minimum standards. So that can be an issue. I think individual service provision, you know, I am not  
30 aware of any discussions that happen with communities about acceptable levels of service. And so I guess coming from a more urban utility where there was the ability for customers to be part of that discussion, I'd say that is certainly missing in remote communities across the NT.

35 In some cases, there's no other option. You are – your drinking water has uranium in it. Your drinking water is coming from an aquifer that's ridiculously high in calcium carbonate. But I think that there is opportunity for that dialogue to certainly be improved.

40 COMMISSIONER DOOLAN: Okay. Do you mind if we ask you a couple of things took, that weren't so much in your submission, but were in our report?

MS VELIK-LORD: Sure. Yes.

45 COMMISSIONER DOOLAN: So, in our report, or I think – sorry, you did refer to it. Where Governments are contemplating new infrastructure, the NWI says it needs to be environmentally stable, it needs to be economically

feasible. And we have criteria behind both of those sort of things. But we did raise the possibility of adding a third headline, that the planning for it should be culturally responsive. So that you've got environment, economics and at least culture on people putting in the headlines.

5

Is that something that your members would support? Having a higher recognition?

10 MS VELIK-LORD: I – without having the conversation specifically with them, I would say yes, that would certainly align with the messages that we've heard. I think in general and the discussions that I have had with our constituents are that they just want to know what's going on, on their land or in areas that they have cultural responsibilities for. So I think that there is a real need to make sure that there is engagement. There's early engagement. 15 There's engagement often and throughout processes to make sure that what is being done is meeting the requirements of traditional owners and of Aboriginal people and it certainly, I've – I've never heard any one of our constituents say that they're anti-development or anything like that.

20 We have constituents who see the need for water infrastructure, for development for agricultural development and the like. But it is about having the conversation and making sure that people are aware of what's being proposed and that they have an opportunity to have meaningful engagement and I think that the movement forwards needs to be going from, if you think 25 about the IAP2 spectrum, but away from just informing people to actually collaborate and engage with people.

30 And I think, you know, in reality in the NT you'd be doing that if it was you know – there is a legislative requirement to engage properly and so we'd definitely like to see that. You know. Yes. Going forward.

35 COMMISSIONER DOOLAN: Okay. And there are proposals under discussion, under development for, you know, consideration by the National Water Grid Authority now.

MS VELIK-LORD: Yes.

40 COMMISSIONER DOOLAN: Have traditional owners in the NT and the relevant ones as far as you're aware, have they been an implicit part of those discussions or is it sort of, well, that's yet to happen.

MS VELIK-LORD: As far as I'm aware, there hasn't been discussions.

45 COMMISSIONER DOOLAN: Okay. Okay. All right.

COMMISSIONER COLLINS: Can I just follow up on the – we just talked about the proposal for a high level principle of culturally response for new

developments. Can I just follow up on it and I don't mean to put you on the spot, so if you want to decline a question, that's fine.

MS VELIK-LORD: Yes.

5

COMMISSIONER COLLINS: But as Jane said, you know, to ensure that it's just not lip service, there's a compliance supply, there were principles of economic viability and ecological sustainability, we've provided criteria we believe are relevant to ensure compliance. If Governments were going to take forward proposal with high level principle, culturally sensitive, again, thought would have to be given to applicable criteria.

10

MS VELIK-LORD: Sure.

15

COMMISSIONER COLLINS: And we haven't put any forward – in your submission, you've indicated one might be one to avoid harm to sacred sites and important places. In our discussion just then, I guess you mentioned earlier meaningful engagement.

20

MS VELIK-LORD: Yes.

COMMISSIONER COLLINS: Yes, and I mean, are there any other criteria that come to mind? Or – and as I say, I know I'm putting you on the spot response.

25

MS VELIK-LORD: Yes.

COMMISSIONER COLLINS: But if there are - - -

30

MS VELIK-LORD: Yes. No, that's – that's okay. I guess in the submission, we talked about avoiding harm and that is – that is a legislative requirement. So at a minimum, it's avoiding – it's avoiding harm. But I think what we've seen, from say the closing and I won't give you specific criteria.

35

COMMISSIONER COLLINS: Sure.

40

MS VELIK-LORD: Sorry. But I think that what we've seen with the Closing the Gap working group and the coalition of peaks and the development of the inland water targets under Closing the Gap. I think that that's really highlighted that there are some, you know, I guess, available and engaged groups who represent Aboriginal people across Australia. And maybe that's something that could be discussed with those members.

45

COMMISSIONER DOOLAN: Okay.

COMMISSIONER COLLINS: Yes. Thank you.

COMMISSIONER DOOLAN: All right. Well - - -

COMMISSIONER COLLINS: Yes, that's all from me.

5

COMMISSIONER DOOLAN: That's all from me. And – from Drew. Are there any other points you would like to make, Bridie?

10 MS VELIK-LORD: No, I think we've – I think we've probably covered them. I think that the, you know, we're really excited about what a new and renewed National Water Initiative can be for the Territory. I know that there is a lot of focus in other areas of Australia and having worked in other areas of Australia, I certainly see the benefit of that. But having come up to the NT, I think that there are some real learnings that we can bring. And  
15 certainly, mistakes that we may not have anticipated happening in other reform agendas across Australia. And that we really need to avoid up here and certainly one of the main messages that you hear when you go out and talk to people on community, is don't let our patch turn into the Murray Darling Basin.

20

Resoundingly, they are aware of what's happened there. I guess they're concerned about whether we're heading the same way. I'm concerned that we might be heading the same way and we may not just know it yet. But I think that you know, we've got some really strong – as I said – strong crowd  
25 engaged Aboriginal Territorians who want to be part of this. They've demonstrated that they have been here for the long haul. They've been part of water-planning processes for 10 years or more. They're always coming up willing to participate. So I think we've got a really unique situation up here.

30

And I think that certainly you know, I'm probably my formative years were built by certain people who had a lot of good things to say about water planning processes and the benefit that it brings to communities to have discussions to share ideas to be part of a process, to have the trade-off discussions that everyone comes with a – to a compromise solution that  
35 everyone has their voices heard and that people are meaningfully engaged and I think water plans, water planning processes are something that's really missing in the Territory and you know, the 2004 NWI spoke about the importance of planning.

40

How is it that in 2021 we still have, you know, such little coverage of plans informing decisions? How is it that we've gone backwards over recent years? And so I think we would really urge the Commission to consider – we're not ready to – I think there's so much that the territory needs to meet. To do to meet the original NWI in order to go forward. And I just hope that  
45 the Territory isn't going to be left behind because of the progress of some of the other States. So hopefully, you know, you can provide some advice about

how we make sure that the original NWI intentions are met and that we can be part of a process going forward.

5 COMMISSIONER DOOLAN: No, thank you for that. And I think, I can hear you reflect on it and the Territory does have the opportunity – none of us collectively can allow the new development to turn into another Murray Darling. That would be a real indictment of Australian water management if that was ever to be the case.

10 MS VELIK-LORD: Yes.

COMMISSIONER DOOLAN: So I agree entirely. The Territory offers opportunities and to learn the lessons we just have to try to make sure that it happens.

15 MS VELIK-LORD: Yes.

COMMISSIONER DOOLAN: So thank you very much and thank you for your submission and thank you also for your first submission as well, which was really informative. Had a lot of information for us and we really, sort of, appreciated that. So thank you.

MS VELIK-LORD: Thank you.

25 COMMISSIONER DOOLAN: Can you thank your members for their participation as well?

MS VELIK-LORD: Absolutely.

30 COMMISSIONER DOOLAN: It's been really useful.

MS VELIK-LORD: And if you ever find yourself up in Darwin, let us know. We'll get you out to look at some of these areas.

35 COMMISSIONER DOOLAN: Absolutely. That would be a lovely thing.

COMMISSIONER COLLINS: (Indistinct words).

40 MS VELIK-LORD: Thank you.

COMMISSIONER DOOLAN: Thanks, Bridie.

COMMISSIONER COLLINS: Thank you.

45 COMMISSIONER DOOLAN: All right. We'll move to our next submission which is the Academy of Technology Science and Engineering. And Harry, I

think we've got you, is that right, presenting. Is Ana likely to be able to make it?

5 MR ROLF: Thank you, Jane. Ana is currently stuck at an airport, unfortunately with the border closing in Queensland today and the – for a short lockdown. She's had an emergency she's had to attend to, which means she's had to move her flight, which would have been later in the day to coincide with this unfortunately.

10 COMMISSIONER DOOLAN: Okay. So we welcome Harry Rolf, then, on behalf of ATSE. So Harry, are you prepared to sort of give us an introduction to some key points on your submission? Thank you.

15 MR ROLF: Certainly, Jane. Very happy to. And thank you very much for the invitation to appear at this public hearing. Firstly, I'd just like to start by acknowledging the traditional owners of the land on which we're meeting today. I pay my respects to their elders, past, present and emerging. ATSE has provided the submission to the inquiry, both initially and in the first round of consultation and now in response to the draft report.

20 Our submission has been consulted – well, we have consulted with and has included input from our Fellowship which is over 900 fellows across Australia. We have many experts in the area of water policy but also a range of related areas, particularly technology and other areas and – in construction and engineering.

25 Our first submission and our second submission focus on five key areas relating to water that are of interest to the Academy and that we thought were important to the National Water Initiative and National Water Reform. And those five areas are the governance of water reform, ensuring that there's an Indigenous voice on water.

30 Integrated Urban Water Management and Planning, Environmental Water Management and Resilience and finally, Water Research and Developments. So I'm very pleased to note that on reading the draft report and preparing our response to that document, that many of our concerns and issues around water reforms have been addressed and ATSE has had quite a long history of being involved in the process of consultation around National Water Reform issues. We have submissions going back over a decade into processes even before the Productivity Commission became involved in this space, and so

40 it's very heartening to be able to say that a piece of work before us that is being refined in this process is in very good shape.

45 I'd particularly like to highlight that the reports' recommendations have taken significant steps forward into recognising the importance of an Indigenous voice on water. And particularly I'd like to note the use of the National Cultural Flows Research Projects Framework to addressing Aboriginal/



Torres Strait Islander interests in water reform. This is a very welcome development from our perspective and we also very much welcome that Aboriginal and Torres Strait Islander communities are recognised as important stakeholders in water planning arrangements and that the draft report aspires to meet or take greater responsibility in – on environmental and social objectives in this regard.

The draft report also goes a long way towards addressing what we see as a deficit in Government's arrangements around water and water reform in Australia. Our submission noted in the absence of COAG, there is a – was, is and may still well be some pending questions around how water reform is governed in Australia and how those arrangements are taken forward. But it's pleasing to note that the role of water ministers is addressed in the draft report and that the use of the National Water Reform Committee is clearly outlined in that document.

That said, we would still like to emphasise the importance of ensuring that the role of the stakeholders, including Aboriginal and Torres Strait Islander communities is clearly outlined in the work going forward. Particularly around the implementation of arrangements following the settling down of things like how it will be governed, but also then how it will be implemented and how the reforms will be – well, how we will ensure that reforms going forward will be implemented in the right way, so the different stakeholders that matter, too.

So on the last three points, just briefly, on the integration of urban water management, we're pleased to see that the report reflects the growing need for strategic investment and water infrastructure. And we would note though, that it could include a greater focus on considering the assessment of social good in water allocations and particularly ensuring that climate resilience is built into the process.

Obviously climate and climate change, we would note is very pleasingly included in draft report and is acknowledge in water reform. But the report could go a little bit further into taking some more direct action on climate change beyond simply looking to things, mechanisms like water planning as ensuring that it is addressed.

So particularly on the point of environmental water management resilience, it's good to see that there is climate change being recognised in water policy but we would like to emphasize that it would always be good to see stronger action being taken in that regard.

Finally, on water research and development, it is excellent to see that the draft report has some extensive comments to – that it has made around the importance of knowledge, skills in water and the future water workforce. This is an area of ongoing interest for ATSE as an Academy for Technology

and Engineering. It's also an area that we are starting to develop our thinking more clearly around and we would note that there – we've been identified – we've been able to identify that there's currently – it looks like there might be a slight deficit in the funding for water research and development in Australia as compared to other areas of infrastructure.

But this work is ongoing and it is good to see that the report notes the importance of this because that gives the work that we're doing more significance and more credibility. It would always be good to see stronger recommendations in the report around the importance of funding for research and development in water and another area that it might be worth considering further down the line if it doesn't make it into this current round of the inquiry, but maybe in future inquiries, is the importance of technology in matters of policy.

We know that with climate change and water allocations, the measurement of water is a very significant and important matter. But it often assumes that we are able to easily measure and quantify the amount of water that is allocated in any given space and that finite resource is quite easy to track from a technological point of view and then that objectively informs the policy.

The current debates around water in Australia can often become quite politicised or complicated with important social issues and it's good to note that we should have a robust conversation around the role of things like technology and science in those discussions to inform how we allocate water and address critical challenges such as climate change. So that's where I'd like to leave it for now.

I'm happy to answer questions, if you have them or talk further about points I've raised here or maybe points you'd like to discuss as well. So thank you.

COMMISSIONER DOOLAN: Thank you. I've got a couple.

COMMISSIONER COLLINS: Yes, I've got one.

COMMISSIONER DOOLAN: Have you got a couple? Do you want to start with yours?

COMMISSIONER COLLINS: Yes. Just – you mentioned that you believed there was a current deficit in Water R and D. I'm just curious to know deficit in relation to what?

MR ROLF: So some of our fellows are vigorously working away behind the scenes on work research, looking at Water R and D in Australia, both the history of and the future of that space. It's been noted a number of times in conversations that I have been involved with in this work, which currently

isn't public, but hopefully will be later on this year, that funding in the Water R and D space is around historic lows.

5 And that more work could be done to ensure that there is funding for critical areas of Water R and D that are needed for implementing National Water Reforms. Or ensuring that we're able to address issues related to climate change in the various spaces that water is important.

10 COMMISSIONER COLLINS: It's an issue we would like to spend more time on in the draft report, but it's very difficult to do assessment of optimal levels of funding as I'm sure you appreciate. I don't think historical measures are necessarily correct measures. The right amount of research should reflect you know, costly water proposition. So just curious if you do any empirical sort of analysis around that issue. And if you did, whether  
15 there was anything in which - - -

MR ROLF: I'm very happy to share the work that we're currently going to be producing once it is ready. And in terms of a publicly available resource, the prospectus for the ONE Basin CRC which is currently available in the  
20 public domain, does highlight some of the issues around the changes in water funding in Australia over the last period of time.

So I'd suggest that that piece of work is worth having a look at, if you haven't already. It's one that's been sitting around on my desktop for a  
25 while, while working on our other pieces of work.

COMMISSIONER COLLINS: Sure. Thank you.

30 COMMISSIONER DOOLAN: Thank you. Okay. I'd just like to follow up on you basically said you'd like to see a bit more from us on building on resilience beyond the water planning. So I suppose we've tried to actually have that theme going through all of it. So it's very large written in that water plan, but it does go through the environment and other areas as well. But I'd be keen to understand how it – what further action would you like to  
35 seek in that area?

MR ROLF: That's a good question, Jane. I think from our point of view, as an Academy interested in technology and engineering, perhaps we could look at some more detail around things like efficiencies in water in urban  
40 environments and how the reforms or – and the recommendations in this report ensure that there is enough incentive for local governments for example to ensure that there's – they're encouraged, essentially to look at that integration between urban planning and water management to create efficiencies to things like introducing new technologies that reduce the  
45 amount of water used in certain spaces and that kind of environmental urban planning that will enable Australia cities to be more resilient in the way that they manage these important resources.

COMMISSIONER DOOLAN: Okay. All right. (Indistinct) think – I think between – that does it for me. You too?

5 COMMISSIONER COLLINS: Yes. Me too.

COMMISSIONER DOOLAN: Is there anything more that you would like to put on the table, Harry?

10 MR ROLF: I'd just like to say that we look forward to working with you and the Commission going forward on matters of National Water Reform and that our fellows are always very ready and eager to engage in these matters. So it's been great to be able to, you know, be part of the process going forward and particularly on the matter of water and technology, hopefully, there'll be  
15 further opportunities for us to engage with you and provide the outcomes in the work that we're currently undertaking.

COMMISSIONER DOOLAN: Absolutely. We would look forward to that. We have an ongoing role in water management now. And so we do  
20 definitely want to maintain those relationships. Also just like to thank the Academy for its input in 2017 and in this one as well.

It is sometimes hard to get hold of the academic community and the fact that we can have the academy and in fact two academies working together has  
25 been extremely helpful to us in this process. So if you could pass those thanks on.

MR ROLF: Certainly will.

30 COMMISSIONER DOOLAN: And the input has been highly valuable. So thank you.

MR ROLF: Thank you very much.

35 COMMISSIONER COLLINS: Thank you.

COMMISSIONER DOOLAN: Bye. So our next submitter is Grahame Campbell. The Chair of Grandamico. And once he can get his video working, there it is. Okay. Grahame, the Chair is yours. So if you could  
40 outline initially your key points?

MR CAMPBELL: I'll just give you a little bit of background. I'm coming at this from a fairly different point of view. I'm actually a fellow of the Royal Society of New South Wales and I'm also an honorary fellow of the  
45 Institution of Engineers. My background is largely in the Oil and Gas Industry. I ran Australia's largest engineering and project management

group for a decade through the nineties and so I had thousands of engineers working for me in resource and infrastructure and we had a water group, too.

5 So I'm coming from a background of looking at it from more an oil and gas point of view and I think that's unique. I got into this through the Northern Territory Power and Water Authority in the mid-eighties. Dr Ted Campbell was running it. I developed an idea that we could use natural gas from Central Australia to not build a coal-fired power station in Darwin. And the reason for doing that was that we had very good technology, probably the  
10 best in the world and we were able in about 14 months to build a 1600 kilometre pipeline. At peak, we built 25 kilometres per day of this pipeline, high pressure, 350 mm dia. I had discussions with the water people. I said, 'Why don't you people use technology coming out of the oil and gas industry? Because in that way you'd get a much higher tech, a much  
15 different view and a much cheaper way of developing your infrastructure.' So that was the sort of point that I started and I had discussions at that time, but more recently, I was involved with the Coal, Seam Methane Projects in Queensland, where they spent about \$80 billion developing an export program for the gas.

20 I was a director of a company called Worley Parsons who are one of the biggest engineering companies in the world, actually. And they asked me to review the work that was being done there, because they were going to produce something like 60 gegalitres a year of water before the gas comes.  
25 So water management was a very big issue.

As part of their license to operate, they needed to put in quite a detailed system to monitor that they weren't interfering with groundwater or other water resources in the area. So this led me to examine how we were  
30 developing our resources and that led to my groundwater action plan and that came out of a report in 2012 that was done by Sinclair Knight. Which basically said that we have a billion-dollar shortfall in managing our groundwater.

35 I thought well, that's extraordinary. How could we be in that situation. So I've felt that I needed to do some research and I did quite a lot of research in the literature. I worked very closely with the University of New South Wales. With the Associate Professor Martin Anderson there, helped me quite a bit and gave me a good grounding in what the issues were. He basically said that  
40 we were not spending anywhere near enough money in trying to maintain our groundwater monitoring.

I thought well, that's really strange because back in 2007, the Federal  
45 Government had instituted a data gathering system through the bureau of meteorology, which spent \$450 million developing a data gathering system. But they didn't have a remit to actually comment on the quality of the data. They got the data from various State Departments and they massaged it into a

system, quite a good system, I believe. But their job was not to comment on the quality of that data.

5 So I did some more research and found that nothing has improved very much. But I've had discussions with the various water authorities, Water New South Wales, particularly, and their view is well, we're doing the best we can. It's not too bad. We can produce water reports. The quality is really not up to what the experts would say was adequate. And I've also noted the comments made by Professor Craig Simmons in Flinders University where he'd  
10 basically said that it's just not up to scratch. And there's a lot, lot more work that needs to be done.

15 So this led to me coming out with my action plan which I submitted to the Commission and that action plan really is just trying to take the very big overview and say well, what have we got? Where is it deficient? How can we put a program in place to – with the best advice, come up with a scheme which will give us something that's adequate for management? Because basically, as Craig Simmons says, if you can't measure it, you can't manage it.

20 At the moment, his belief and also Martin Peterson, is that we really don't know what's going on. The various aquifers are connected, the Great Artesian Basin is there. It's connected. We have some information and places like the Namoi aquifer, there's been quite a lot of work done. And I  
25 think that's been admirable. But it comes in fits and bursts and I think we need something that's more solid. I think we need a focus and if the National Water Initiative is going to be reinstated, it needs a division, of course for groundwater, which is 30 per cent of the problem and it is connected to the other 70 per cent.

30 We really need to focus on how can we do this better? How can we be world leaders in a country that's scarce of water, and the best management we can apply to it will be money well-spent I think. So I've done a journey over the last few years. I'd like to hope that when we do go into this, do we get the  
35 benefit of the work that's been done by the oil and gas industry because water is a big part of their business, too. And use the technology and the systems that they use and I think the Surat Basin is – is a great example of what can be done. It's far ahead of anything the State Government's doing. But they did it because well, they had to do it. And they thought it was very  
40 necessary, too.

45 So that's a sort of a rambling background. I'm very interested and I'm happy to actually contribute where I can. And help these guys who really don't have any money at the moment, or any incentive to get on with what's really a big problem for Australia.

COMMISSIONER DOOLAN: Thank you. Thank you very much, Grahame. Frankly, when you gave us a set summary from that SKM report, it took me back. I used to work for the Victorian Government. And I hadn't seen that report for a while. But the whole issue of bore maintenance is one that is extremely difficult. As that report points out. So I really do take your point.

For us, we're trying to make recommendations into a new National Water Initiative. We're trying to actually probably look at monitoring. So I think you remind us of the importance of some of this basic data. You also remind us of just how expensive it is and how expensive those bore monitoring networks are to maintain. And they're all getting old.

In terms, though, I am interested in what you can see as the lessons from the oil and gas and the application of those lessons into this. So we've got an extensive, but aging bore network of variable density across the country. Some areas are covered well, where there's been problems or utilisation. Others are not. What do you think are the lessons we can take from the oil and gas industry? Where should we go to look?

MR CAMPBELL: Well, I think it's a management approach. It's – when you're in the oil and gas industry and it's possibly because oil and gas is valued much more highly, I guess, than water. And that's one of the basic problems, is you know, we don't fundamentally as a community value water. We say it all the time. You know, we learnt it in school, as children. Water is very valuable. But we don't actually from a management point of view, demonstrate that we're managing properly and that's part of the problem.

In oil, gas though, when you have a project, there's generally, a very upfront management process which puts together the best minds and then puts together a context and that context is then focussed on what are the main issues? And then you rank what are the issues that need to be done first? And I think for water, we need to look at all the aquifers, we need to see which ones are more valuable, more threatened. Focus on them. And then bring to bear all the latest technology.

And I think the oil and gas industry look at that very well. They're very good at cross-discipline ways of putting teams together. I think the water industry suffers from the fact that all the water engineers think they're the best at doing water. Well, I look at water as a fluid, much the same as gas or anything else, and I think a very good example recently, was building the pipeline from – the water pipeline from the Murray River, up to Broken Hill. It was only a couple of years ago.

I looked at that and I thought, 'Oh, they're starting to use oil and gas technology.' They'd buried the pipes in the first instance. But then I noticed, they used rubber in the joints and I thought, oh no, that's not going to work.

That cost them about \$100 million right there. If they'd have used the oil and gas approach, it would have been quicker and about \$100 million cheaper. But that program was developed because they couldn't come to terms with the MAR schemes proposed in the Lake Menindee area.

And they were very admirable. Nobody could agree on who owns the water and all the – all these sort of peripheral issues which I think should be put in context, really. You know, what are we trying to do? Focus on the important issues, bring the best minds and then form a program. And once you start doing that and you make a start, you can change as you go along. And that's what the oil and gas industry does. It's very flexible.

The reviews are very robust and we don't get bogged down with some of the academic issues, and I've had that problem where each person's technology is not developed enough, there's a whole range of issues.

If you're in oil and gas, we've got to get on with this, we've got to do it, let's have a plan and let's be strong with the plan. And I think that's the sort of thinking that would much benefit the way water is managed at the moment.

COMMISSIONER DOOLAN: Okay. All right. Well, thank you. Drew? Have you got?

COMMISSIONER COLLINS: Yes, look, not a lot. I mean, my background's more in surface water, but I'm quite mindful that over a quite long period of time that I seemingly heard time and time again that groundwater monitoring is insufficient. So it seems to be a well-known truth that there's not a response to this. So I know recalling in your submission that more funding is needed. It's well beyond that. It's more a strategic level, I guess that you're calling for.

MR CAMPBELL: Yes, that's right.

COMMISSIONER COLLINS: Have you got any other comments on that, that strategic change is needed to you know get over the inertia we've seen?

MR CAMPBELL: Well, I think it's got to come from the politicians, because I found the bureaucrats won't do anything until they get a directive, you know, which is terrible, really. The emphasis should be coming from the people who are at the work front. But they're underfunded, they've got too much to do.

They just can't step back and say, 'Boy, we could do this a lot better if we had this, this and this. I think it's that strategic sort of direction that's required with a new thought pattern. As I say, coming out of the oil and gas



industry is so much about people who are involved and there's quite big projects up in Queensland.

5 If they could be asked to bring their expertise and everyone would be open-minded about the way we're going to tackle it, and not be sort of bogged down in, 'I'm a water engineer. I'm an oil and gas engineer'-type thinking. But look at it from a very strategic point of view, and I think we'll get a much better result.

10 COMMISSIONER DOOLAN: Okay.

COMMISSIONER COLLINS: Yes.

15 COMMISSIONER DOOLAN: All right. Yes. Sorry, I ended up with – you mentioned a strategic action plan?

MR CAMPBELL: Yes.

20 COMMISSIONER DOOLAN: That – we, I think we got the Sinclair Knight Merz executive summary. Did we get the action plan? I haven't seen - - -

MR CAMPBELL: That was my original submission back in August sometime.

25 COMMISSIONER DOOLAN: The issues paper. Yes. Okay.

MR CAMPBELL: Yes. So, it's only two pages.

30 COMMISSIONER DOOLAN: All right. No worries.

MR CAMPBELL: I kept it direct for the politicians.

COMMISSIONER DOOLAN: That's not us.

35 COMMISSIONER COLLINS: We appreciate that as well.

40 MR CAMPBELL: It's under the five points of the next steps. The first one's the most important. Develop the scope of work, the design and bring in all the latest technologies. But get this plan really, really fleshed out. And then once you've got that, tackle the first aquifer. The one of the most important of them and whatever.

45 And then work your way through. Once you've done one apply that to the rest. And if you bring the industry along, you can halve the cost I think. That's the one thing you also find as when we built the – like Alice to Darwin pipeline, we did it at half the price of what the Western Australians did when they did all their gas line from Dampier down to Perth and we did it because

we were highly focussed on what the issues were and that was absolutely critical.

5 That – so, you know, we saved hundreds of millions just by being very focussed and having the best people involved in small teams.

COMMISSIONER DOOLAN: Okay. Well, thank you, Grahame. Thank you for your input.

10 MR CAMPBELL: No problems.

COMMISSIONER DOOLAN: And it reminds us once again, groundwater.

15 COMMISSIONER COLLINS: Yes. Much appreciated.

MR CAMPBELL: Okay. Well, I appreciate the opportunity. Thank you.

COMMISSIONER DOOLAN: Okay.

20 MR CAMPBELL: Okay. Bye.

COMMISSIONER DOOLAN: Bye. So we'll take a break and we'll reconvene at 4.15 for any people still out there. All right. Okay. Reconvening at 4.15. Thank you.

25

**SHORT ADJOURNMENT** [3.33 pm]

30 **RESUMED** [4.15 pm]

35 COMMISSIONER DOOLAN: So I'd just like to say we'll now resume the hearings of the Productivity Commission in the inquiry into National Water Reform. And I'd like to welcome our representatives of the NFF, Les Gordon and Warwick Ragg. So Les and Warwick, we have your submission. Thank you. If you'd like to just go through some of the key points that you would like to make and then we can potentially have a discussion.

40 MR GORDON: So, thanks, Jane. If I start with an opening statement and we can go from there if that's okay with you.

COMMISSIONER DOOLAN: Absolutely. Thank you.

45 MR GORDON: I appear today in a capacity of chair of the NFF Work Committee. I'm joined by Warwick whose general manager and natural resource managers at the NFF. As you would well know, NFF was

5 established in 1979. It's the National peak body representing farmers. The more broadly agriculture across Australia, the NFF's membership comprises all of the major agricultural commodities across the breadth and length of the supply chains to make the supply chain. Now we've in excess of 30 members, but they're predominantly state farming organisations and commodity bodies.

10 Now, for the purpose of this hearing, the NFF will be elaborating on its recent submission to the productivity commission's draft report on National Water Reform inquiry. There are several recommendations in there that we wish to comment on and wish to further discuss them.

15 The NFF welcomes the review of the NWR principles. The original NWI has served us well, but in areas, it's implementation's been vexed. But now we must be prepared to update it to be fit for purpose and to address the challenges of climate change.

20 At a high level, a renewed NWI must be guided by the following principles. There should be no increased burden on consumptive users, in developed systems, especially the Murray Darling Basin which is already suffering the impacts of redistribution due to the Murray Darling Basin plan. Water policy decisions must ensure a material balance between social, economic and environmental outcomes. Water regulation and other activities should be guided by a risk-based approach under a fit for purpose water planning framework.

30 No additional pools of water should be created in highly developed systems. And the security of property rights and minimising third-party impacts must be enshrined in the renewed NWI.

35 We note the following areas of the draft report. Firstly, the NFF does not support the concept of rebalancing consumptive and environmental share. We cannot see how it would be applied on ground. The NFF cannot see how the process of rebalancing should work in practice. If poorly implemented, there's significant risks that it would undermine the security and the reliability of land holders' property rights.

40 Governments should not seek to vary or redistribute allocations or entitlements, especially in the Murray Darling Basin. Agriculture and basic communities have been disproportionately burdened by the implementation of the Murray Darling Basin plan and continue to feel these effects. Farmers seek confidence, stability and equitable outcomes which would not be afforded under a rebalancing process. There is very little appetite to contemplate rebalancing.

45 While we recognise the impact of climate change, the commission would be better off focussing on opportunities to create and maximise opportunities to

deliver environmental water and achieve environmental outcomes. Environmental objectives will have to be amended as a result of climate change within the scope of existing entitlements.

5 Secondly, the NFF believes that a renewed NWI should remove any reference to water market promoting trade of water to its highest value use. In the context of the market, highest value was narrowly defined and myopic. It means different things to different people. The highest value isn't necessarily the best value. Land holders increasingly make decisions that  
10 relate to sustainability and persistence reflecting the landscape as well as community aspirations.

15 Instead, we suggest the Productivity Commission support the inclusion of diversity of agricultural commodities in water markets. NFF is concerned about whether the water market is facilitating diversity or the concentration of particular agricultural commodities and the impact it may have on narrowing the economic base of communities.

20 Thirdly, NFF supports the aspirations of traditional owners to access water for social and cultural and economic purposes. The scope of traditional owners' interest in the NWI should be limited only to those with water issues and respect existing regimes and other instruments to resolve traditional owners' other interests.

25 For example, the NWI should not be a vehicle to underpin Native Title claims. In respect of water access, the NFF's position is that we support the provision of water for indigenous use only where this does not result in third-party impacts on existing entitlement holders, including the environment. We support the use of existing held and planning environmental water  
30 entitlements for the co-benefit of indigenous cultural water uses.

We support the use of existing market mechanisms to acquire indigenous water entitlements from willing sellers for contemporary economic use, however, NFF does not support government participation in the water  
35 market. Particularly, through the provision of public funds to access water from any purpose including First Nations' economic use.

40 And finally, we support appropriate governance arrangements to implement the NWI. At this stage, it is not clear who will oversee the implementation and assessment or even the development for that matter of a potential renewed NWI. The remit of the NWI goes beyond that of any single ministerial council. And it is our view (indistinct words) have oversight of the implementation and should be advised by Ministerial councils as appropriate.

45 Commissioners, that's our opening comments and we look forward to your questions and further comments.

COMMISSIONER DOOLAN: Thank you. Are you happy for me to?

COMMISSIONER COLLINS: Sure.

5

COMMISSIONER DOOLAN: Okay. Can I just start with the – well, the rebalancing issue. Because I note in your page 9 of your submission that you don't support the concept of rebalancing, but in the next paragraph 'There must be a process to identify and assess the feasibility and practicality of environmental objectives'? So I just want to get the – so does that mean the NFF supports just the maintenance of the current balance in all basins regardless of what the outcomes might be? I just want to be clear.

10

MR RAGG: So, do you want me to have a go, Les? There's a couple of – couple of paradigms to that, Jane.

15

MR GORDON: Yes, Warwick, please.

MR RAGG: So the first one is, you should take our comments predominantly in the context of fully developed systems.

20

COMMISSIONER DOOLAN: Yes, sure.

MR RAGG: Where scope for varied entitlements will have a direct and potentially deleterious impact on where entitlements have reduced. So you know, I have to do this to you, but in the Murray Darling Basin, where it's already pretty comprehensibly allocated and has just gone through a quite difficult process of rebalancing or it still is, I think. Additional meddling in that would not be very well received. I think there's a slightly different discussion where new horizon catchments or basins are considered, so Northern Australia and possibly Tasmania, although, I think they're probably reasonably well-developed, where we can see a logical pathway to making sure that the initial balance is right, that that in our mind is a different discussion to rebalancing for a purpose like climate change.

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30

35

And so I think inherent in that first paradigm is an expectation that as water becomes more scarce under the climate change scenario, then all users will have to cut their cloth to meet those outcomes. Not just assume that there's a process that allows them to dip into another entitlement pool to satisfy their needs. And so that will inherently create some quite difficult conversations, presumably within the environmental allocation process which is, you know, I guess, it is what it is, but those conversations will be equally difficult, were they to impinge further on a consumptive pool which will already be inherently impacted by variable allocations under future climate scenarios.

40

45

COMMISSIONER DOOLAN: So certainly take the point and we would agree with you that in developing areas, as say, the north, some parts of

Tasmania, it's a different conversation. You can actually set the balance with an eye on climate change and avoid those conversations. But we still – we still do have to then think about the impact of climate change in the fully allocated catchments or noting – well, as you would be aware, our proposal is we may have to rebalance and I take your point that you don't agree with that. But that rebalancing does involve looking at environmental and consumptive objectives, you know, not – you don't start with the existing ones on either side. So, in the fully allocated catchments, your preference is everybody just has to work within the existing balance.

5

10

MR RAGG: Yes.

15

COMMISSIONER DOOLAN: Okay. And predominantly, that's around certainty and potential pain for your constituents.

20

MR RAGG: Yes. And – but, yes it is. And Jane, I think it goes further than that. I mean, I think the Sefton report's instructive in the consequential impact of reduced allocations to – or reduced entitlements to the consumptive sector on communities and I think there's a few case studies there in that I'm trying to demonstrate that taking water out of communities isn't very helpful in at least some cases. I recognise some communities are more resilient than others in that context. But I mean, I guess elsewhere in our submission, we talk about, you know, a more triple bottom line approach.

25

So not only protecting interests of the economic use of the water, but also the consequential social fabric that that flows to in those – particularly in those key service centres that are focussed particularly – predominantly on agriculture.

30

COMMISSIONER DOOLAN: Okay.

35

COMMISSIONER COLLINS: So, just to clarify what I think is – I think I know your position. You've made it quite plain, but just for the record, what I'd like to clarify. So you're saying the liability for the impacts of climate change should be worn by the consumptive pool and the environmental pool, respectively, but that – so I understand that.

So - - -

40

MR RAGG: No, no. I don't think we're being that precise. I think we've said all water users.

45

COMMISSIONER COLLINS: Sorry. All water users, yes. But all water users are responsible for the liability of climate change on their entitlements, their pool. But then, beyond the liability, so accepting the position of liability, and if I'm understanding you correctly, you also don't support Governments on behalf of the environmental pool, looking to recover water

as we've seen previously. That not only do they were the liability's not acceptable for them to make good through purchases from willing sellers? Yes?

5 MR RAGG: Yes, that would be our position. And I think – and I think particularly, and you know, it won't be any surprise to you that our water committee is quite focussed on Murray Darling Basin issues, because that's where most of the issues are.

10 COMMISSIONER DOOLAN: Absolutely.

COMMISSIONER COLLINS: Yes.

15 MR RAGG: But that whole further buy backs issue is just kryptonite amongst our membership. It's, you know, we're still not there in terms of achieving at 27, 50. So that's hurting without a debate about more. Look, I think the other point that's worth making is that the entitlement and allocation system inherently balances by reducing allocations proportionately across the hierarchy of water needs and so the consumption of environmental  
20 pools, particularly the general security pools are the ones that bear that burden anyway. The higher security pools are more protected, I think, from that allocation, interaction and that's something that's exercising our minds as well.

25 COMMISSIONER DOOLAN: Okay. All right. Thank you for that. Could I just keep going? So moving away from the highest value use as – is that as a concept or simply because it potentially is misinterpreted.

30 MR RAGG: Yes. I think – sorry, Les, do you want to go or?

MR GORDON: No, no, well, you can start off. I'll follow up.

35 MR RAGG: Yes. So I think potentially the latter, Jane. That is – it can be interpreted, as I think we've tried to articulate in our submission as you know, the line in the sand that it has to be the highest value. We're having trouble with how that inherently conflicts with a diversity of water use across a catchment or across a basin. And we're also struggling, I guess, to some degree with a sort of – how do I put this. The having the highest value tends to cause a presumption that perhaps not highest value crops in a pure  
40 economic sense, illegitimate in the context.

So if it's a better land use and if it has a better community outcome to grow, for example, rice, then it is to, I don't know, dairy or almonds, then that ought to be a legitimate consideration that a consumptive user takes.  
45 Equally, if there's a sustainability issue that he wants to address, by you know, growing a different crop rotation, a different business model, then that ought to be able to be done in that context.

5 So calling it highest value is able to be misinterpreted, everyone kind of  
thinks it means a different thing. But if everyone interprets it as a, you know,  
a gross margin agronomic outcome, then it's kind of giving you the wrong  
outcome. But if it's seen as more, you know, a diversity of commodities fit  
for purpose for different communities, you know, case study for example is  
rice mills in the southern basin, cotton gins in the northern basin, whatever  
they're doing with – well, drying grapes in Mildura. But they're all things  
that ought to be legitimate considerations.

10

And just putting it into highest value use, tends to leave it at the farm gate in  
our view.

15 COMMISSIONER DOOLAN: So can I just explore that a little bit more? In  
particular, the role of Government in that? So, effective I think you're  
saying what the outcome should be is diversified economies supporting  
socioeconomic resilience, so nothing is precluding agricultural investors  
making those decisions or taking those considerations into account and if  
they think that's a high value use there's nothing to say it isn't and nobody's  
20 telling them they shouldn't do it. So, for me it's understanding particularly,  
other than sort of terminology, is there something you want governments to  
do that they're currently not doing.

25 MR GORDON: I think it's probably the other way around. I think that  
there's things that we'd rather the government weren't doing that they are  
doing and that's banging on continually about high value use. As a farm  
manager there's a whole range of things that influence our decisions about  
how we use water. Now, the return for a megalitre is certainly one of them,  
but so is agronomic – access to agronomic services, soil types, access to  
30 labour, access to markets. There's a gazillion things that an individual farm  
manager considers so it's not necessarily all about the return per megalitre.  
Having said that if you look across particularly the basin at the communities  
that are really successful, those communities have a range of production  
systems and a range of outcomes in terms of goods produced. A variety of  
35 outcomes in terms of goods produced and government continually banging  
on about water's got to go the highest value, well at any one stage it might be  
grapes, then it's almonds, then it's something else and you can't flip-flop all  
over the countryside so it's about having balance in that production systems  
generating resilient economies and acknowledging that there's a whole range  
40 of other drivers that will influence investors in agriculture in terms of how  
they spend their money.

COMMISSIONER COLLINS: Can I jump in there?

45 COMMISSIONER DOOLAN: Of course.



5 COMMISSIONER COLLINS: We spend time in the report talking about integrity and the development of efficient markets and the purpose being to get the maximum returns for the community and we're looking for, you know, efficient market operations, but efficient market operations typically is thought of as promoting trade to it's highest value use. So if that's want as the objective, how do you see markets being constrained so you get different outcomes?

10 MR GORDON: I'm not that we'd see markets being constrained.

15 COMMISSIONER COLLINS: I guess I'm just trying to think through. I understand what you are saying, there are broader considerations and you want to go into the mix but, you know, markets generally operate in a very, you know, economics view about highest bidder, highest value use as per what people are willing to pay. So, if that's not generating the outcomes you want, and you want other outcomes factored into the mix how do you get that if you mark the framework. What do governments need to do. What are you seeking?

20 MR GORDON: I think the markets will, in fact, take care of it. Markets themselves won't direct all of the water to a single highest use. Markets themselves will actually drive water to that diversity of production systems. That will happen within individual business as much as it will happen as a collective across the various basins and in the various irrigation systems.  
25 There'll be very few successful, long-term successful systems that if the market drives all of the production to this week almonds because that's where the biggest return is so it's a, I think you're imagining more constraint from an efficient, the operating market than would actually happen. What would happen, what might drive that would be a continuing overall reduction in the pool and that would reduce diversity probably even more so.  
30

35 Having said that we're still trying to wrap our minds around a 709-page report that has a fair bit to say about success or otherwise of markets. So, I think you're disappointed about that Jane.

COMMISSIONER DOOLAN: We haven't got hold of it yet, either. We haven't worked our way through it.

40 MR GORDON: I flicked through bits of it to try and – I mean, when you get a 709-page report the very first think you do is grab the executive summary, now the executive summary wasn't an executive summary. What it was, was and he was very specific about the words it is a guide for the rest of the report. And I reckon the guide for the rest of the report actually raised more questions than it answered. So you're only about two pages into the guide to  
45 the rest of the report and you find yourself looking through that report and it's going to take – it's a body of work, it's going to take a long time to digest

and think about and formulate responses to, so, we're a long way off saying 'yep, this is the way it's going to work'.

5 COMMISSIONER DOOLAN: No, understand. And I think from what you said and what we understand, it's in the interpretation of highest value use and, you know, people I think have been, some people have been unhappy with what collective outcome of water trading has meant for certain reasons, but it still doesn't change the dynamics of individual investors, investing and I gather you're really not advocating any real change to the market and the  
10 market context.

MR RAGG: It's a terminology issue, I think you've hit it on the head.

15 COMMISSIONER DOOLAN: Yes, okay.

MR RAGG: And that sort of divergent resilient landscape is probably more of a kind of terminology that we'd prefer. And I guess the best way to do it is by way of example so, you know, we have dairy farmers that say to us 'we want options. If we're going to go out of dairy we want to jump to  
20 something else. It doesn't necessarily need to be almonds, or if we're almond growers and the world market for almonds crashes', I don't know why it would, but it might. Citrus is probably a better example, it seems to ebb and flow depending on, you know, where things come from, then that capacity to switch, particularly for perennial crops is quite difficult and if  
25 there's an imposition that, you know, has to be the highest value at any given time, even if that's someone, you know, lecturing them in the pub, then that's kind of unhelpful but the resilience and the flexibility are important characteristics and as I think as Les was trying to articulate, we've got a pretty high degree of confidence and I think, to the degree that we understand  
30 it and reinforce it that the market is working quite efficiently. It's not very transparent but it's probably getting the job done.

COMMISSIONER DOOLAN: Okay, it's just a more mature characterisation - - -  
35

MR GORDON: It's almost a case of Jane say it, but don't use those words.

COMMISSIONER DOOLAN: Yes, okay. All right. Fair enough.

40 MR GORDON: If it makes you feel any better the economic dries in NFF house got a bit disturbed by it too.

COMMISSIONER DOOLAN: Well, I can see that, you know, that  
45 terminology was used right back at the start where there was some really inefficient stuff and, you know, the argument was very clear and what you say is the market's operating efficiently, let's just characterise it as a mature market rather than - - -

MR GORDON: Yes.

COMMISSIONER DOOLAN: I think, I can't think of the words but - - -

5

MR GORDON: And acknowledge that the really successful communities that innovate about developing successful regions and successful communities but really successful communities have a diversity of production systems. They don't have a single one that's producing more than everything else. The blend and the mix has changed in that but if you go to places like Swan Hill and you see all these different production systems producing all sorts of different products. Each has its place not, you know, this week one's more valuable than the other, next year I can guarantee you it'll be different so I guess in terms of you asked at the start 'what do you want governments doing?' The less the better almost in that space and leave it to the market to sort it out.

10

15

COMMISSIONER DOOLAN: Okay, all right. Terminology is getting in the way, is what you're saying?

20

MR GORDON: Yes. And the really had decision around making some of this stuff at the moment, let me tell you, isn't water or the price of water it's labour. You know, a lot of the high returns are really labour-intensive and labour's a heck of an issue in a lot of places.

25

COMMISSIONER DOOLAN: If you're okay, can I just then go to the Aboriginal and Torres Strait Islander people? So, again, and I think you mentioned it yourselves. You support the use of existing market mechanisms to acquire indigenous entitlements from willing sellers but you don't support government participation in the water market. So, those two things seem really contradictory to me so can you just explain what you mean by that?

30

MR GORDON: Warwick, do you want me to do it?

35

MR RAGG: I thought you might have.

MR GORDON: No, okay I can do it. So, the view is that there are certainly no reason why we would exclude any group and particularly indigenous groups participating in the market. There is a lot of nervousness around the table though of the impact that the government walking in and purchasing further great slabs of water given the experience that's happened in the Murray-Darling Basin already, so while it appears to be two views at odds with each other, it's not, it's just how indigenous groups get funded into the market that we're concerned about. As I said very nervous about the government just waiting and starting to buy water willy-nilly again.

40

45

COMMISSIONER DOOLAN: Okay, so it's - go on, sorry Warwick.

MR RAGG: No, I was just going to add, so the conflict where it exists is that the current disposition of the government in the Murray-Darling Basin is to have no further buyback yet they've inherently got a de facto buyback by supporting the purchase of indigenous water, which they did under the Littleproud-Burke agreement and I don't think that's been implemented.

COMMISSIONER DOOLAN: No, it's not yet. Okay.

MR RAGG: So that's really the nervousness.

COMMISSIONER DOOLAN: So, there's nervousness around it. There's a recognition it's the only way to acquire water for indigenous people for economic purposes so it's really now about how those decisions are made. In fact, how those decisions were made and then how they would be implemented that people would be really concerned about?

MR RAGG: Yes, and inherently we need to be careful that there's not distortionary effects of, you know, an over resourced buyer but, you know, I mean, on one hand wherein business communities are able to raise their funds is one thing but if it's becoming increasingly apparent they've got a market power that they otherwise would not have had then that's of concern. And I think it's worth reflecting this little vignette for you.

I was at a Murray-Darling Basin Authority climate change forum and we had an indigenous presentation there, a First Nations presentation there, and I was sort of psyching myself to get up and go 'well that's all very good but where are you going to get this economic water from?' And the Commonwealth Environment Water Holder stood up and did it for me and said 'you can't magic up more water, you can't create more pools, so how do you propose we're going to do it?' And they basically said, pretty much what everyone's saying, it's coming out of the economic pool.

COMMISSIONER DOOLAN: Okay, yes.

MR RAGG: The Acting Commonwealth Environmental Water Holder.

COMMISSIONER DOOLAN: Okay. Fully understand that. So, you recognise that's the only place it can come. It can only come from purchase. Very concerned about the impact of purchase. Understand that. People are nervous, so it will have to be clear process, clear implementation process and be very aware no third party impacts, not distorting the market. Now, in this context, if you don't mind, what do you mean by no third party impacts? I think that's going to be important to understand because, you know, if we talk about no third party impacts in a whole range of things we understand what we mean by that. In this one I'd like to just make sure we do

understand what you mean by no third party impacts here. There's no distortion to the market?

5 MR RAGG: Yes, I was just going to say I think it's in two cohorts. So, it's  
no distortionary effect on the market and the third parties in this case would  
be other market participants but I think it's also no distortionary moving of  
allocation by an intervention with government funds that have an impact on  
social fabric, so, I mean, probably don't quote this example, but if you moved  
10 a heap of water out of, I don't know, Mildura, back up into Brewarrina, or  
something, I don't know if that's even possible, but, you know, that  
intervention, that dislocation, would be a probably an unacceptable impact,  
you know, does that make sense?

15 COMMISSIONER DOOLAN: Yes, yes. It does make sense. So, you're  
potentially looking if there is to be that sort of intervention aim for it, I don't  
want to put words in your mouth and we're probably going into, sort of, more  
detail than we need to be but keep it local because the water still remains in  
the local community, is something that you would be thinking about. Would  
20 that be right?

MR RAGG: And non-distortionary, yes.

COMMISSIONER DOOLAN: Yes.

25 MR RAGG: And so the other paradigm in this discussion is the intersection  
between cultural and environmental water. And that's a really difficult issue  
which we've struggled with too. I mean we've landed on, you know, there's  
multiple benefits for cultural water from environmental water and where they  
can be mutually inclusive then they should be explored and implemented, but  
30 if one, back to our earlier discussion about who takes the burden of climate  
change, if that's having an unfair burden on an environmental pool that it  
can't cope with then that discussion needs to be had quite transparently as  
well.

35 MR GORDON: So, Jane, and the same to consumptive water, you know,  
I mean, delivery of any water we should look for multiple outcomes. So if  
there's a way to deliver consumptive water that allows for a cultural outcome  
as well we should have processes in place that allow us to explore that. The  
other point I'd make, I guess, is that, you know, we clearly talked about this  
40 for a long time and there was a lot of thought go into it and one of the points  
that was made was that maybe the way the government could intervene in  
this area was rather than buy water is for indigenous groups that want  
economic water go to the bank to borrow the money and the government  
underwrites that. Maybe that is a less, or more from a business perspective is  
45 a more robust approach. Now that was just a thought that came out at the  
time so I'm not saying it's the way to go but maybe we'll need to be a little  
bit out of the square, maybe we'll need to look for other ways to enable the

outcome that we probably all want and minimise the impacts that we all probably don't want.

5 COMMISSIONER DOOLAN: Okay. Okay, no that's fine and we certainly have recommended, as you would be aware, that where we can get shared cultural benefit out of environmental water that that should be fully explored and in that area we've also, as you've just alluded to basically trying to put or suggesting that there's an obligation on the system manager, the river  
10 manager, you know, to see if they can facilitate environmental and cultural outcomes, so long as there's no third party impacts. So doing what you just said, you know, if it's possible to get more out of consumptive water en route then we should be exploring that.

15 MR GORDON: Absolutely.

COMMISSIONER DOOLAN: So we have tried to pick those up with those recommendations along the way. Okay, I just sort of scanning through. You didn't touch on in your opening comments though the investment in major water infrastructure and, in particular, the costs reflectiveness. Do you want  
20 to sort of give us your thoughts on that?

MR GORDON: I'm trying to remember what we wrote on that.

25 MR RAGG: I just said the same thing I don't remember what we said. Here we go.

COMMISSIONER DOOLAN: I think you basically implied, well, cost-effective, fit for purpose absolutely, we're very happy with that. But there's more about recognising the concerns about costs recovery, yes.  
30

MR RAGG: Yes, and just focusing on our couple of recommendations there and this is a bit of a challenge, I guess, Commissioners, the way communities have been consulted on infrastructure and reform projects and you've, you know, walked through this in your inquiry into the implementation of the  
35 Plan. It has proved quite disappointing and whether there's a principled approach to how they better engage is an interesting discussion that we really don't have an answer but recognises it's something that needs addressing.

40 Our second recommendation there sort of goes to, you know, having realistic timeframes but enable consultation and to some degree, you know, if we take again the Murray-Darling example, they've had realistic timeframes, they've had plenty time to do it, they've just not done it very well and I think you would be aware that Mel Pavey announced the other day that she's  
45 suspending engagement on Menindee and those are the sorts of things that a) vex our members because it's going nowhere but b) vex our members because some of them feel like the Menindee reform will have an impact, for example, in Hume and how that will be approached.

5 So, the other issue is the physical impact of infrastructure, so, you know, if  
you put a major – okay, let's, for example, say we put a canal or a pipeline  
around the Barmah choke. Where would it go? Who would it impact? How  
would it impact? Would it have, you know, perverse outcomes on the  
landscape? People are a bit, you know, afraid of the unknown and assuming  
the worst and if we can come to a landing on how those arrangements are  
taken forward in a consultative way, and I'm not saying government's  
disposition is not to, but, you know, there is a feeling out there which is  
10 becoming stronger that, you know, these sorts of interventions in the  
landscape, whether it's for constraints or whether it's for other, you know,  
(indistinct) some of the 605 are increasingly problematic as we get to the  
really difficult ones, so the low hanging fruit, for example, on the SD projects  
are kind of being sorted but it's the difficult ones that are just really dragging  
15 their heels and it seems to revolve around consultation and community  
expectations.

20 Now, is that a consequence of the government's governance framework  
where someone's got a bucket a money and someone else has got the job of  
doing the consultation? I don't know but it might something to consider.  
I don't know if you (indistinct) Les, you've probably thought about it more  
than me.

25 COMMISSIONER DOOLAN: So, I suppose for us that's getting into the  
depths of basin plan and that's not - - -

MR RAGG: Sorry.

30 COMMISSIONER DOOLAN: No, no, I understand that's exercising your  
member minds, absolutely. But that will be the 2023 inquiry for us. You  
know, we did it in 2018 and we'll come back in 2023. So this one is really  
simply looking at the basin in terms of lessons learnt and best practice and  
thinking about their application more nationally.

35 So, for me, I understand some of that but truly it will – that's got to be left.  
But there are contemplations, you know, of major infrastructure not in the  
Murray-Darling, in elsewhere and I think you did have a point that, you  
know, the assets are heavily underutilised and service is delivered at  
standards that far exceed user needs then water uses should bear the brunt of  
40 that. So I certainly understand viewpoint. What's the process then that you  
feel for new infrastructure outside the Murray-Darling Basin let's say, what's  
the process that governments need to look for to ensure that that doesn't  
arise.

45 MR RAGG: Yes, and look I hear you and it's of concern to us. We'd love  
nothing more than to create a norther irrigation industry that learnt all the  
lessons from the Murray-Darling Basin process and, you know, some of the

5 CSIRO work is already indicating that that can be done but there's other people that say you shouldn't go anywhere near it. I guess for me it's about a realistic frame of apportionment so it's a bit easy for governments to just go 'oh we're building this water storage and half of it's going to be for consumptive use so they'll have to pay half the costs of the management of it.

10 Where it doesn't necessarily adequately recognise the broader community benefit of enabling the farm sector or the consumptive pool sector to grow in a region that grows that regional vibrancy, increases export income, et cetera, et cetera and there's probably – you know, Murray-Darling Basin's probably a really good case study of how much extra bang for your buck you can get for a well-managed irrigation sector and if we're doing that to take advantage of access to Asia and really enhance our export standing and from our perspective get to \$100 billion then that should be adequately and  
15 appropriately accounted in the apportionment and it's not always the case that it is.

20 I recognise that there's a CSO applied to a number of schemes but, and, you know, things like kind of related, things like they're doing in Queensland at the moment, which is seeking to differentiate water pricing based on commodity doesn't do anyone any good either. I mean, that's a bit outside the development stuff but they don't want to be putting those sorts of policies in place to try and – that's what we used to seeing from non-market or subsidised economies and it's not how we do things here.

25 COMMISSIONER DOOLAN: Yes, okay. I think I've exhausted my questions.

30 COMMISSIONER COLLINS: Can I ask a couple of clarifications on, as you're aware we haven't had your submission very long so I've relied on the executive summaries.

MR GORDON: Apologies for that. It took some effort I've got to tell you.

35 COMMISSIONER COLLINS: And we'll spend some time going through it and this comment isn't meant to be inflammatory but, you know, I looked at your high level principles and after the discussion we've had, your third principle: 'water policy decisions must ensure a balance between social economic and environmental outcomes' but there's an exception there that  
40 you've said when it comes to rebalancing. Where there should not be a change to the balance, regardless of implications to the sectors. Is that a fair interpretation?

45 MR RAGG: No, I wouldn't characterise it that way. I'd say what we've argued for is equity and that the equity ought to be maintained, so, again sorry, Murray-Darling, we went through a very difficult process of apportionment and we would like to see reapportionment. But, look, you're



reading us very clearly and let me say it again, just in case you're not. In emerging developments you can do that apportionment initially and so I'd call that balancing not rebalancing and I think we're on the same page that, you know, rebalancing something that's at or over allocation is quite difficult where new horizon catchments, new horizon basins, if you want to go down there, lend themselves to thinking about future impacts of climate change or something else and, I mean, I probably wouldn't advocate this but discretionary reserves are things that could be brought into being in those newer areas to, you know, future proof. We haven't got that capacity in developed catchments and I don't think we can go back. The other thing I just want to come to and see if we're all on the same page is governance, but sorry you had another question?

MR GORDON: Just while we're on that one Warwick, just before we leave, I mean, nothing will drive investment away than you start dicking around with people's property rights. So, set it right, set it once but once it's set and money's invested against it, it's really difficult to start, unless you've got a really big chequebook that you're going to compensation people for it's really difficult to start trying to tweak things after it's been set in stone.

COMMISSIONER DOOLAN: So, certainly agree, you can't muck around with property rights but it there's a – sorry, and this is a little where we perhaps need to sort of be clearer, so I think we do agree, Warwick, greenfields are different and I don't think our positions are very different at all so it is how you deal with climate change in the fully allocated systems that we have. And I suppose your point is we deal with it by simply just living with the allocations that we've got and I think we're probably thinking probably can't necessarily do that because you're not meeting anybody's objectives necessarily.

But we could be a lot clearer about not just when but if there is to be rebalancing the types of processes and principles behind it. Because I do agree, Les, you should not be taking water off people. There needs to transition paths, there needs to – like, it's not a simple thing and we have to learn from it but the security and sanctity of entitlement needs to be maintained in that process and we need to think our way through a) if there's a new balance what are the new objectives and what that balance is and have a transition path, have a proper process in terms of defining all of that, so, I think we can be a lot clearer about what we mean.

Now that still probably doesn't deal with your initial, you know, you don't believe it should happen actually, fine, but we can be clearer about what we believe it does mean when you have to do it because we do recognise you don't want to do this very often or frequently. It is a potentially disruptive thing. So, I do feel we can be clearer along those lines if that would be helpful.

MR GORDON: Yes, I think, Jane, in our opening comments I said that we can't see how it would work and if you can illustrate that then I guess we would re-evaluate our position.

5 COMMISSIONER DOOLAN: Okay, so that makes sense, Les, and we can indicate how we think it would work. You still might not like but we can be clearer about that, yes. Okay.

10 COMMISSIONER COLLINS: Just a small one then following on from that, under 'environmental management' there's a dot point. You make the comment: 'Environmental water holders should have the same obligations as consumptive users and must demonstrate how and when they are using their portfolios.' Can you explain the consumptive users – how do consumptive users demonstrate how and when they are using their portfolios?

15 **[BRIEF INTERRUPTION DUE TO TECHNICAL PROBLEMS]**

20 MR GORDON: Yes, okay. So, I think the question was how do consumptive users illustrate what they're using them for. For the most part that's reasonably obvious in terms of what, you know, what a district's producing, how it's producing it. That bit's reasonably straightforward. I think the key point in that part of the submission though was really about as much as they could be environmental managers being transparent about what they were trying to do and how they were trying to do it. Now, there's some

25 really good local examples where environmental managers are very close to the landscape and they are quite open and, you know, I mean, I talked to one this afternoon about putting some water into a system here.

30 So some of them are very close and very transparent about what they're trying to achieve, why they're putting the water there, what they're doing. But necessarily apply everywhere and I think the intent of the comment was that there's more transparency, and transparency will lead to better understanding of what they're trying to achieve and perhaps get a little bit more ownership. I think that was the intent of the observation, Warwick?

35 Nod or shake.

COMMISSIONER DOOLAN: Okay. Is that it from you.

40 COMMISSIONER COLLINS: Yes. That'll do.

COMMISSIONER DOOLAN: I think that's it for me as well. Have you got any final comments that you would like to make.

45 MR GORDON: I guess there's one question still running around in the back of my head and a number of members have raised it, Jane, and that's – I mean, this has been, this has been a fairly serious process, a substantial body of work but it's not the new NWI, it's a review of the old one and

I don't see, I guess I would be interested in your take, I don't see any commitment or serious inclination from any of the jurisdictions about 'okay, let's pick up this body of work and turn it into NWI Mark 2. I know you covered a little bit into what you think the governance might look like but  
5 I guess I've been around too long, I despair that we're all doing a lot of work here for nothing.

COMMISSIONER DOOLAN: Look, you know our role. Our role is to do this. We've been asked to provide practical advice into the development of  
10 the new NWI, you know, Commonwealth Government's committed to it. We've just tried to do, if you like the best we could to provide government with advice that we think a) would set you up for the next decade, b) is a continuation so it's, you know, it's not hugely - - -

15 COMMISSIONER COLLINS: Start again.

COMMISSIONER DOOLAN: It's not too hard, yes, don't pull it down and start again. Keep the really good bits, recommit. We've just tried to provide the best advice that we can to provide 'this is what a new NWI should do for  
20 Australia'. It is, as you say, up to governments what they do with that advice.

COMMISSIONER COLLINS: And to some extent the decision to move to a new NWI will be based on a judgment of what it will involve so hopefully  
25 this has shone a bit of a light on what you would be committing to, the type of change this would be needed.

COMMISSIONER DOOLAN: And presumably what stakeholders are telling governments as well.  
30

MR GORDON: Yes, I guess that's the part – we're going to need to make up our mind how badly we want it, yes, how strongly we advocate for it but I mean I was around when NWI one was, as you were Jane, and it wasn't an easy birthing process. It took substantial work and I had to remind a number  
35 of people while we were going through this process that this is the easy bit. The hard bit's likely to be the next bit if we bother it and that did lead a number of our members to question the jurisdictions and their various contacts and discovered that there probably wasn't a lot of appetite for it. I just – left me a little bit despairing, just a little bit 'we'll see how we go'.  
40

COMMISSIONER DOOLAN: I think it's certainly building at a bureaucratic level. I think, you know, this process has been helpful. We've had a lot of enthusiasm from states jurisdiction, absolutely but as is always the case, you know, states manage their water and then the national is the  
45 secondary element to it. I think we still think there is a significant benefit from jurisdictions to go through the effort in terms of it. There's a lot to be gained from sharing, there's a lot to be gained from having a national policy

framework and fitting into it. And just, I suppose we'd consider water is so important for Australia if they cannot get together on this it's a bit of a sad indictment really, isn't it?

5 MR GORDON: Yes, I guess the other part that's in the back of my mind, Jane, and it will probably be someone else's argument, we've got some tough conversations still to be had around climate change and around traditional owners involvement and a whole range of other things. So we've still got some tough conversations. It would be nice to be able to have those  
10 conversations within the confines of some rules and, rather than just a free for all. So, yes and what we advocate for is going to become pretty important I suspect over the next little bit.

15 COMMISSIONER DOOLAN: I agree with you, Les, because I think at the moment there's these issues that are all out there. If at least all stakeholders are on the same, this is an issue and we have to deal with it then having some rules around how those conversations are had and lead to implementation become an important thing and the other thing I think that we need to say. It might be really hard to get this one off but it needs more regular review.  
20 Because the issues of climate change rebalancing – do we solve it all in this one, or do we go yes we need to recognise it and put some processes in place so the next one learns from that. I don't know. Could be too big, I could be being too much of an optimist. But we have learnt a lot in 17 years, we're going to learn a lot in the next 10. It's sensible to not make it such a big  
25 thing to revise it and review it.

MR GORDON: So it becomes a tweaking rather than a major rewrite.

30 COMMISSIONER DOOLAN: Exactly, that's right. And a way that we bring the experience in so if we rebalance or we've got in the next five, ten years instances where traditional owners had been provided, you know, we worked our way through it. They have been provided with an economic development entitlement in a couple of catchments. Then we've learnt from that and we've learnt how to do it. So, anyway, I just think we need to sort of  
35 recognise when we're learning but I do think your point is a really good one. It's all out in the ether now. We haven't even agreed we've got a problem. If we put it in here we've agreed on it, we've agreed on the parameters and we put some principles about how we have those conversations. And that's  
40 important.

Okay, well, thank you. Any other final words because I end up having the final word.

45 MR GORDON: Let's end on a light note.

COMMISSIONER DOOLAN: Okay, well.

MR GORDON: And it's only me. I'd say Warwick.

COMMISSIONER DOOLAN: I can still see him.

5 MR GORDON: Okay.

COMMISSIONER DOOLAN: So, anyway, can I thank you and Warwick  
and the conversations you've had within the NFF. Thank you very much for  
your submission and your time today. So, ladies and gentlemen who are still  
10 with me, that concludes today's scheduled proceedings. For the record, is  
there anybody else on the line who would like to appear and make a  
submission, having heard what they've heard? Speak up now.

COMMISSIONER COLLINS: So, it doesn't have to be a submission, if  
15 they've just got a comment they would like to make.

COMMISSIONER DOOLAN: A comment, yes. All right. If not, I'll  
adjourn these proceedings now and we'll resume again on Wednesday  
morning which is our last hearing day. So firstly, I'd like to thank everybody  
20 who has presented and I'd like to thank people who have stayed on the line  
and listened. It is really with your submissions and your input that our report  
is improved and our advice to government becomes more reflective of  
stakeholders' views. So once again can I thank you all and we draw this to a  
close today.

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**MATTER ADJOURNED**