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Official Committee Hansard

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND
FORESTRY

Reference: Future water supplies for Australia's rural industries and communities

WEDNESDAY, 13 NOVEMBER 2002

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HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND FORESTRY
Wednesday, 13 November 2002

Members: Mrs Elson (*Chair*), Mr Adams (*Deputy Chair*), Mr Forrest, Mrs Gash, Mrs Ley, Mr Schultz, Mr Secker, Mr Sidebottom, Mr Windsor and Mr Zahra

Members in attendance: Mr Adams, Mrs Elson, Mr Forrest, Mrs Ley, Mr Schultz, Mr Secker, Mr Sidebottom and Mr Windsor

Terms of reference for the inquiry:

To inquire into and report on:

The provision of future water supplies for Australia's rural industries and communities, particularly:

- The role of the Commonwealth in ensuring adequate and sustainable supply of water in rural and regional Australia.
- Commonwealth policies and programs in rural and regional Australia that could underpin stability of storage and supply of water for domestic consumption and other purposes.
- The effect of Commonwealth policies and programs on current and future water use in rural Australia.
- Commonwealth policies and programs that could address and balance the competing demands on water resources.
- The adequacy of scientific research on the approaches required for adaptation to climate variability and better weather prediction, including the reliability of forecasting systems and capacity to provide specialist forecasts.

WITNESSES

CULLEN, Professor Peter (Private capacity)..... 1

Committee met at 5.08 p.m.**CULLEN, Professor Peter (Private capacity)**

CHAIR—I declare open this public hearing of the House of Representatives Standing Committee on Agriculture, Fisheries and Forestry inquiry into future water supplies for Australia's rural industries and communities. The inquiry arose from the request to this committee by the Hon. Warren Truss MP, Minister for Agriculture, Fisheries and Forestry. Written submissions were called for and 91 have been received to date, plus Nos 92 to 110 have been received today. The committee is now starting on a program of public hearings and informal discussions. This hearing is the first for the inquiry and today the committee will receive evidence from Professor Peter Cullen. Professor Cullen, do you have any comments to make on the capacity in which you appear?

Prof. Cullen—Yes. I am recently retired from the University of Canberra and am now a visiting fellow at CSIRO Land and Water and a member of the Wentworth Group.

CHAIR—Although the committee does not require you to give evidence under oath, I should advise that these hearings are formal proceedings of the parliament and consequently warrant the same respect as proceedings of the House itself. It is customary to remind witnesses, before they provide testimony, that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. Would you care to make some introductory remarks and then the committee would like to ask you some questions.

Prof. Cullen—Thank you for the opportunity to be here. I guess it is challenging to know where to start, but let me start back in 1994 when federal and state governments brought forward the COAG water reforms which I believe were a very significant step forward for Australia in terms of learning how to manage our land and water and provided us with the foundation to really sort out many of our water problems. The tragedy is that they have only been half-implemented and we need to reinvigorate that water reform agenda. If you look at the pricing aspect of COAG, I think we have the full cost charging in the urban area, but probably not quite so full cost for waste water services. As to full cost in the rural sector we have made very limited progress in most jurisdictions, so we are not necessarily covering the full cost there.

As to investment being visible, viable and sustainable, we have not had a lot of proposals for new dams since COAG came forward, partly because one of the reasons for COAG was a feeling that we had probably overinvested in water infrastructure, so it was a bit of a catch-up period. The new dams will be back on the horizon and will need some water structure. The interesting thing with, for example, the Dawson River dam in Queensland, is that it has not been able to go ahead with private capital. There is an interesting signal there that the private sector did not think it was worth investing in. A comprehensive system of water entitlements was a cornerstone of the COAG water reforms and where we have failed. When we talk about the agenda which will go forward, setting out those water rights is fundamental. We will talk a bit more about that.

Water allocations for the environment was also part of the COAG agenda. There has been a lot of talk about not only how you get water back in overallocated systems but also whether we have institutional arrangements that are smart enough to get a good environmental return for that water investment. Progress has been relatively minor and it is something that we need to

look at. Water trading is a cornerstone of the COAG water reforms. We frankly do not have a trading system at the moment that lets water move from low value use to high value. We do not have a transparent market that lets water move around—for example, the Murray-Darling Basin—and facilitates interstate trade.

We have a system where rice growers can buy and sell water amongst themselves but have agreed not to sell any water out of the rice growing areas. You wonder why the ACCC does not commit to cap the Murray-Darling Basin. The main supplier of water has said that they won't sell anything to us, so how do you operate in a cap environment when you haven't got a free and open market? The trading needs a bit more work to get an operating market, in my view.

Integrated catchment management has been an interesting principle and there has been really good progress in South Australia and Victoria. I had hoped that the national action plan and the NHT would really reinforce that, but in some ways it has sabotaged it, because when we put large amounts of money on the table to go through regional groups, there has been a concerted wish by state agencies to make sure that funds do not flow directly to those regional groups, that they can go through the state agencies. In my view they often seem to get creamed off to support bureaucracies rather than deliver what we think we should be getting. The integrated catchment management has had some good starts and there are some really good success stories. Victoria and South Australia have done pretty well.

The other two things were consultation—I guess we do a lot of consulting but we do not necessarily do much engagement, but we will not get into the details of that—and research. The COAG reforms talk a lot about research but there has been very little concentrated effort. The scorecard, in a very personal and quick once over, is pretty patchy. There are some very good principles on the table but we have not done all that well with them.

I now want to pick up a few of the points for going forward. The *Blueprint for a living continent* which you have been given a copy of is part of that. There is another more substantive paper which I will table entitled *The Australian Water Experience: A Way Forward*. This is a paper I gave to the Rosenberg International Forum on Water Policy which was held in Canberra last month. This is where I have that summary of the COAG achievements. I have also spelt out in a bit more detail, in the blueprint, some of the ways forward. I will table that and we can talk to that in some ways.

The blueprint is an interesting story in that the Wentworth Group consisted of a number of people who had been working in land and water for a long time. We were fairly dismayed by some of the popular talk that was going on about how Australia should handle the drought. We decided that, as a group of scientists, we would put out a statement. We were not seeking to be politically correct, as we had been told by many of our land-holder friends—we did not consult with any of them. This is the scientist's view on what should be done. It is one of a number of views that are on the table. We put out our statement, which got a lot of media. We have now developed that statement into a more substantive spelling out of those positions and that is what you have in your papers.

We have identified five things we think are fundamental to going forward. None of them are new, or particularly new. They have been on the table for a while but, for some reason, we have not been able to make progress with them. The first one is clarifying water property rights. That is the one that is really in front of us at the moment. At the last COAG meeting it was agreed

that was a fundamental issue. The Deputy Prime Minister has been pushing it very hard. Many of the irrigator groups are very unhappy with the current state of water rights and would like to see clarification of that. They particularly argue that they should get compensation if they lose any rights. There are other issues.

At the next meeting, which is probably going to be early next month now, COAG is going to hear reports from the states on their progress with water rights and will certainly be addressing that issue. I am somewhat concerned, because whilst I think there is a lot of political will to resolve this property rights issue—it is really access rights for water rather than property rights—there is wide agreement that we need to resolve it, but no-one is very clear on how we resolve it in terms of what are the steps forward.

I understand the state and federal bureaucracies together have prepared a working paper on this which will go to COAG. I am not privy to that paper and I have not seen it. I am concerned that it will just have broad platitudes in it about equity and transparency and whatever and an earnest wish to consult widely and will not necessarily break this gridlock that we are in now and take us forward. I am hoping to have done some more work before that COAG meeting and we may put some other ideas into the public arena.

We have other examples where governments have resolved the issues of access rights to natural resources. I am particularly interested in the fisheries quota system, where they use an expert panel to virtually look at what are appropriate quotas for groups. There was no talk about compensation, because once you give people a more secure quota they get a remarkably rich and valuable capital asset, so the compensation issue can be considered but is almost a second order issue as to how necessary that is. But it may be that, if the bureaucrats cannot agree on a way forward on the property rights, that would be one mechanism for doing it. It seemed to work remarkably well in the fisheries case, as far as I am informed, so that is a possibility for us. That is the primary item we have in the Wentworth proposals.

The others were restoring environmental flows to our stressed rivers, and we are going through a major public debate on environmental allocations for the Murray at the moment. To my mind, we have two issues running on the Murray. We have the story of the 350 or 750 and the 1,500 gegalitres argument, and there is a lot of interest in those various figures and a lot of concern as to what will be the environmental benefits of those investments in water. I understand all of that.

I think we probably can articulate the environmental benefits of it, and I will give you an example of that if I get a chance later. But I think the issue is that farmers are not going to sign up to any of those environmental flows until there is a mechanism. Where is the water coming from? Who is paying? Is there compensation? Just how is it going to be got back? In my view, we need to argue and think about what is the target, but we are not going to get closure on a target until we have a mechanism in front whereby everyone can see how they are going to be advantaged or disadvantaged. Again that comes back to your property rights.

Our third agenda was using federal resources to end broadscale land clearing of remnant native vegetation. We know that clearing a lot of that vegetation is probably going to induce salinity problems 30 years down the track. We are spending an enormous amount of money trying to slow the salinity problem. It does seem crazy to us that we are still creating it. We are also concerned about the loss of biodiversity and other things with that.

The other two proposals are ones that need more work, trying to get some mechanisms for farmers to be adequately recompensed for sustainable land management. Every land-holder has a duty of care to maintain some native vegetation and to not export soil, chemicals or salt or nutrients from their property. From time to time in particular areas, farmers are expected to have a higher duty of care than the general one, and in that case we would like to see some mechanism for paying them for those environmental services that they are asked to provide. You can see the obvious example: farmers in the Sydney water supply catchments may well be required to adapt some farming practices which are non-optimal for agricultural production but do increase the supply of good quality, clean water, and there is a way that can be recompensed.

The other one is this. I am concerned that the current market for agricultural produce puts a lot of pressure on farmers to cut corners and to do things in a non-sustainable way. The supermarkets have enormous buying power, and farmers can produce food and fibre which is virtually subsidised by the environment because they can cut corners and do things unsustainably. We accept a level of environmental degradation so they can put that on the market, subsidised by the environment.

I believe we probably should move towards some form of pollution legislation so that farmers are not encouraged to just dump their wastes into their rivers. This is tricky to do because it is hard to measure the salinity coming off a property and into a river, but it would seem to me we have a way through it with the sorts of environmental management systems that are now being developed. If a farmer can show that he is meeting best management practice with an environmental management system, he probably would not have to pay for a licence, but if he was not meeting those standards he would bear an extra cost which might make it economic for him to meet those standards. By going that route, you can build the costs of sustainable farming into the price of food and fibre at the supermarket. No-one would have an advantage by cutting corners. That seems to me to be reasonably simple. I think I will stop there and explore any of those ideas, or others that you would like to.

CHAIR—Thank you very much. We really appreciate your input. We have all had the opportunity to look into your *Blueprint for a living continent* and found it very interesting. You have no doubt stimulated the committee into asking a lot of questions.

Mr SECKER—I have three questions. The figure was 660 gigitalitres. Is that what you said about extra flow down the Murray?

Prof. Cullen—The reference figures they are talking about are 350, 750 and 1,500 gigitalitres, aren't they? They are in the discussion document.

Mr SECKER—I will say 1,500. What would that be worth on the open market?

Prof. Cullen—I cannot answer that. We are looking at about \$1 million a gigitalitre. I think that is the current estimate. It depends on how you get it. There are a lot of ways you can get water back. It depends whether we are buying it on the open market, whether we are investing in infrastructure to stop wastage, or whether we are just going to claw back five per cent or 10 per cent of everyone's allocations. There are a number of mechanisms.

Mr SECKER—Yes. I made that point because you could be sending \$1½ billion worth of water down the river and you have to work out your cost-benefit. The second question is this.

You mentioned that rice growers have not traded away from rice growers. I think a lot of people understand that rice growers really do not get the return per dollar that some of the other merchants in the market are. How would we achieve that—that they traded out of rice growers—without making the price of water too high? Are there other ways we can achieve that?

Prof. Cullen—Once you have a functioning market, it will come out of rice anyhow. The particular farmers that are selling their water will get a financial windfall. They will get a major capital benefit. The challenge is to manage that transition at a pace, such that alternate crops emerge in those areas to sustain those rural communities. I think those areas are looking very aggressively at what are alternative uses for their water. But I suspect that as a market develops—and we are finding it now under the drought conditions—water is available but at such a price that it is not being used for a lot of the traditional uses of irrigating on pasture or rice, and that is just a sign of things to come. Water is scarce in this country, a lot of people want access to it to make money, and it is going to move, I think, as a market develops to the higher value uses.

Mr SECKER—Yes, although in a drought, of course, if you are cutting lucerne hay you are getting pretty good money, \$300 a tonne, and you can probably get five cuts of a tonne per acre, so you are looking at pretty good returns in a drought year. The last question is this. I would like your professional opinion about the Snowy River—whether it was wise to start those extra flows down the river this year, when the rest of the Murray-Darling system is under so much stress because of the drought.

Prof. Cullen—I do not think I really have a comment on that. The amount of water going down this year has been fairly modest from just removing one aqueduct from the system. I suspect that we are seeing a lot of pressure now. Wherever there have been any environmental allocations, people are saying, ‘This is a drought. We really need the water elsewhere. We shouldn’t have the environmental allocations in a drought.’ I did at one stage have some sympathy for that view, on the grounds that a lot of the Australian biota is adapted to drought and can cope with these conditions, but I have subsequently been advised that yes, the Australian biota is adapted to drought but we have destroyed many of its mechanisms for adapting, in that there are not any deep holes in the river now which they can have as refuges. We have built weirs to stop them moving to the stable bits of waterholes, locked off and dried out wetlands—

Mr SCHULTZ—Varied the temperature of the waters in the process.

Prof. Cullen—That is true.

Mr SCHULTZ—That has had an impact?

Prof. Cullen—Yes. There are a lot of things we have done which have taken away the resilience of those systems to cope with drying out. I am now a bit more conservative about needing to keep those environment flows during these stress periods.

Ms LEY—Professor Cullen, you mentioned in your introductory remarks that the system of water trading and water entitlements has not moved to where it possibly should be and that we need to be looking at it going to more highly efficient uses. How do we overcome some of the

physical constraints—for example, in the Murray, moving it from above to below the Barmah choke? Obviously markets are important, but how do we overcome water moving away from communities where it may not be receiving the highest return and there is no way those communities can move into that higher return area or there is no initiative to push them and, basically, that means the water is leaving the community? Physically and socially, how can we achieve that?

Prof. Cullen—The physical area is perhaps the easiest to address. One way of looking at water rights is to look at a right for the storage capacity in the storages and a right for access to the channels to deliver that water. As you have pointed out, a lot of water has moved down the river towards Mildura and they can no longer deliver that water this summer. Even if they had the water, they cannot get it through the Barmah choke. I think the Victorians are considering building a channel around that area. I would think that those sorts of biophysical constraints of what you can deliver need to be key elements in part of the market, and maybe you have to rent a bit of channel capacity to get your water from A to B.

Ms LEY—Do you see it moving almost intervalley? Maybe there are times when it cannot move between valleys, but you were talking about it as if it was the Murray-Darling Basin as a whole.

Prof. Cullen—Yes.

Ms LEY—I would see those physical constraints between the valleys as enormous.

Prof. Cullen—Yes. We are not going to get a free market. I accept that we have biophysical constraints that have to be built into the market. Your other question of what sort of adjustment we have for rural communities is a much tougher one. As I say, the whole market idea gives really good adjustment mechanisms for the farmer who could make a financial windfall from selling water at a very high price, but there is nothing in it for the regional communities. That is a really challenging problem.

When you go into a competitive market, as we have done with water and so many other things, there are going to be losers. I think the art of this is to try to ensure that we get policy levers that minimise the losers. For instance, if we decided that we had to take a certain amount of water back from particular irrigation areas and we decided to take water from 10 per cent of the least efficient irrigators, that might well improve the security of supply to the most efficient irrigators in that region. We know that the most efficient irrigators are producing four to 10 times more than the least efficient, and we may increase regional wealth through those sorts of mechanisms. It is not automatically a negative, but clearly we have to allow enough time in the system to let those adjustments happen. That is where New South Wales have probably taken the right step by saying, 'Here's a water access right for 10 years and we're going to review it after 10 years and we may readjust it then.' That gives people a bit of stability to invest and communities a chance to readjust to what is happening to them.

Ms LEY—They do not feel that the 10-year water sharing plans give them stability and their bank managers do not feel that it gives them an investment horizon that is very useful. You mentioned that the farmers could make a windfall from selling water. I have not met a single farmer in irrigated areas of my electorate who wants to make a windfall from selling water. They all want to hang on to the business they have and make a go of it where they are. I really

have not had any that have said, 'Look, if this water is worth a fortune, we'll sell it and go and sit on a beach.'

Prof. Cullen—There are a few people that are selling quite a lot of water and making a lot of money out of it. I think that is one of the fears—that water will be accumulating in the hands of a very small number of water barons, which is also one of the real problems with the market development. We want to make sure that does not happen.

Mr SECKER—Can I have clarification of whether you are only involved in water systems or whether you are also involved in underground water, because that is a very big thing in my electorate.

Prof. Cullen—When we look at water access rights, which I think we are now doing through the COAG process, we really have to look at them as a whole. We have to look at surface water, we have to look at water in the river and we have to look at ground water. We have demonstrated the mistakes of dealing with one of those. If you put a cap on the Murray-Darling Basin, lo and behold people put down bores. What a surprise! Dealing with one of them is not going to work. We do need a comprehensive, integrated system.

Mr SCHULTZ—Professor, I like and concur with your comments that briefly said you were concerned about the creaming off by the states of value moneys to support bureaucracies. That has been an issue of mine over many areas for many years. Getting back to the issue of the Pratt water plan, do you have an opinion on the plan to pipe irrigation water and reduce water evaporation and loss from open drains and leaking pipes?

Prof. Cullen—I agree with two major elements of the Pratt proposal. One is that we need a national water policy—and I think that debate is now starting—and the other is that investment in infrastructure is part of the solution. Equally, in getting water back for the environment, I think we have an obligation to the taxpayer to do that in the most cost-effective way we can. When you look at the costing of that, you could spend an awful lot of money per megalitre to get water back from some of those proposals. Some work is going on now, but I have a suspicion that a lot of the real savings and benefits from investment through piping will be at the on-farm level rather than at the system level. There is a lot of analysis required for that, but we need to ensure that any public investment is giving us a good return. It is part of the solution, not the panacea.

Mr SCHULTZ—For the record, can you indicate the problems that are attached to drought proofing Australia and turning the seaward flowing rivers westward?

Prof. Cullen—The problems with turning rivers inland are twofold. We cause problems in the areas we take the water from—the estuaries and the downstream rivers. Look at the tensions of the Snowy and the damage that has been done to the Gippsland Lakes by overextraction of water. There is environmental use from those resources at the moment. Even in the far north—the Gulf country—the prawn fishermen that I have been talking to are very concerned that we do not do something that might alter the flood peaks, because apparently the salinity of that seawater is a very core driver to the breeding of prawns.

My concern is, firstly, in regard to the places we take water from, that we need to be very clear what we are going to do ecologically and who are going to be losers from that. Then we

have to look where we put the water. The original Bradfield scheme did not go ahead because they realised they were going to be putting it onto salt-laden land that was just going to bring up salinity within 20 or 30 years. Again, you look at where the impacts will be where any additional water is put. In my view, we have quite a lot of water in the Murray-Darling Basin that we are not using very efficiently, and we should set about using it more efficiently before we look at other sources.

Mr SCHULTZ—How much of a hurdle or difficulty do you think the political will of any government of the day is going to be in making the harsh decisions to address the issue and address it in an environment where, from my point of view anyway, compensation obviously has to be paid to land-holders who will be affected by those decisions?

Prof. Cullen—I am not an expert on compensation and I have publicly said that, where farmers have a real legal right and it is taken away from them, there is a case for compensation. I am also hearing a lot of asserted rights that, because they have been buying water on an annual sales basis or off allocation, people should also be compensated. I think that argument needs a lot more scrutiny. The compensation issue is clearly on the table and is a major issue, but governments take away rights from people all the time without compensating. In the fisheries example, as I understood it, there was no compensation paid for those quotas. There was some adjustment money paid in particular areas for particular problems. I think governments have to look at a range of tools.

Mr SCHULTZ—Getting back to the first part of the question, governments have also made decisions, for political expediency, that have created the problem in relation to which they are now taking compensation for people away.

Prof. Cullen—I agree with you that there is not much point in going down the blame path. As a society, we have made a number of mistakes which have been costly to a lot of people. I do not know about the political will. You would know more about that than I. I sense that the politicians I am talking with are very keen to see resolution of some of these issues. I think the community is very keen to see resolution. Regarding our blueprint document, I am pleased that there has not been a lot of criticism of the five things we said needed to be done. The concern I am hearing is, ‘But how can we do them?’ That is an area on which bureaucracy is working at the moment—ways to implement and to do those—and I think we need to get other people working on those as well, so that we get a number of ways of implementing them. If we can get a plausible way forward, I think there is political will to do something.

Mr SCHULTZ—Unfortunately there is nothing like a drought to send the message home in a very dramatic way, is there?

Prof. Cullen—It certainly has focused a lot of attention.

Mr SCHULTZ—Thank you.

Mr WINDSOR—Peter, I think there is a tremendous opportunity to move forward in relation to this debate. I was quite pleased to see the Wentworth Group come out but also pleased to see the Farmhand group making certain comments, because I think it polarised some things and made people start to look for common ground. There is a lot of common ground there. Your first principle in terms of property rights and the sorts of issues that Alby has been raising is the

major hurdle. The hurdle really is not one of philosophy or great principle; it is one of who actually wears the cost of change. So the property right issue does become very important.

The gridlock can be removed, though, if you introduce new money into the scheme. Even the comments that have been made federally in recent weeks are shifting the blame back onto the states because of the old constitutional rights. If we lose that opportunity now and just go back to that game, we will suffer some real consequences. What are your views on how we create new money? Where there has been an overallocation of a resource and an overuse of a resource within some of our systems, where it is necessary for an adjustment process to take place, how do you create new money? What do you think of an environment levy or a food levy that you have been talking about? We need some new money to break the gridlock, rather than demand that states come to the party. They may not, because constitutionally they do not have to.

Prof. Cullen—I agree with you that we need some new money to break the gridlock. If we leave it as it is, we will just have a stand-off; we will not take this opportunity in front of us now. We listed a number of things in the document on ways to make that money, but we did not come down with any particular one. The idea of some rebating system for people using acceptable management practice is an interesting idea, and it could be made to apply to urban residents as well as rural residents. Therefore, people who are using urban sensitive water designs, et cetera, could get a similar benefit. That is attractive to me—sending a price signal.

I do not know how acceptable levies would be to the system. People are probably getting a bit tired of levies coming on for all sorts of things. There is a bit of concern about the airline levy at the moment—where is it ending up? Is it going to where we were told it was going? I am not necessarily attracted to levies as such. If we had a levy, the idea of a catchment levy—where the money went directly to the regional catchment body—would be quite acceptable, but it is a bit more concerning if it goes into federal coffers and then state coffers and any cents left over would end up in the region. I do not think people really want to buy that any more.

Mr SECKER—We already have a catchment levy for several areas in South Australia. It mostly just pays for what were existing operations, I think.

Prof. Cullen—And it is working well and has not had a lot of backlash. Victoria did have that but lost it recently, which is a pity. A levy that goes straight to a regional catchment body, I think, could be quite attractive if it was transparent. It is better to put some other levers in place and get the real costs of production into the food prices, rather than a national levy.

Mr WINDSOR—I would be very interested to see how you would make that work in the system we have in this economy.

Prof. Cullen—The trouble is imports. You have to demand environmental management systems that are being developed and evolving at the moment and require imported products to meet the same standards.

Mr WINDSOR—On a different tack, evaporation from open storages, efficiency measures in terms of the conveyance of water—those sorts of things—are all on the table now. Do you have a view on artificial recharge of ground water aquifers as not only a means of replenishing overused systems but also possibly as a means of much more efficient storage for the future?

Prof. Cullen—There has been incredible success in South Australia with that as a strategy. The people who are doing it tell me that they believe it is applicable in a lot of other places. I am not sure it would work around the Canberra region. I think you do need the right sort of aquifers. But the leading work that CSIRO have largely been doing in South Australia has been very exciting. They have demonstrated that it can be very effective and we should be looking for other opportunities to exploit that approach.

Mr SECKER—Farmers used to do it at Langhorne Creek every time a flood came down the Bremer River. The department opposed it initially, but when they started measuring they realised the practice was reducing the salinity of the water and also recharging the aquifer. It has been very effective there.

Mr SIDEBOTTOM—I found your paper very interesting and I am going to refer to it. I was not going to ask the question about levies, but I would like to draw your attention to a quotation from your blueprint:

Incorporate into the cost of food, fibre and water the hidden subsidies currently borne by the environment, to assist farmers to farm sustainably and profitably in this country.

Could you elaborate a little more on ‘hidden subsidies currently borne by the environment’? I am particularly interested in those and in how you are going to recover costs. If it goes into the cost of the food or the product, in terms of competition it makes it very difficult.

Prof. Cullen—The thinking there is that a farmer takes irrigation water and applies it to his paddock. Some of that comes off his paddock bearing all sorts of interesting things—salt, nutrients, sediment and maybe agricultural chemicals. Instead of ponding it and treating those, generally they get dumped into the river, with degradation to the river. Some enterprises—and I think the cotton people have been providing a lot of leadership here—recycle that water and use it very efficiently. We do know how to do that better without dumping the waste into the rivers. We have management strategies that will let us do that. It is just that we are not applying them in many of our systems. That is what is meant by ‘hidden subsidy’—allowing the rivers to be degraded, perhaps unnecessarily, because farmers do not want to use best practice.

Mr SECKER—How can you incorporate it into the cost of food when you cannot set a price for food? There is a market out there for food and they will not pay you any more just because you have irrigated it.

Prof. Cullen—If everyone is having to meet the same environmental standards and everyone has to put ponds in, there will not be people putting it on the market cheaper. The costs of production will be covered in that environment. It is not good enough leaving that to the goodwill of a farmer who wants to farm sustainably when he can be undercut by someone next door who does not want to farm sustainably and is prepared to mine his land. The idea of a level playing field is to demand a certain level of practice through environmental management systems or whatever, and then they all have to meet that. Hopefully, you will not get undercut.

Mr SECKER—Consumers are not going to pay more than they want to.

Prof. Cullen—Consumers will pay the price for whatever an apple or a piece of steak costs. If it goes up five or 10 per cent and there is no cheaper source of supply, they will pay what the market demands.

Mr SECKER—In most agricultural products, they cannot push the price. The market price is what people will pay for it, not what you push the price to. If people stop producing apples because they are too expensive, what will happen is that they will come in from an overseas source.

Prof. Cullen—I acknowledge that.

Mr ADAMS—That is the reality.

Prof. Cullen—The way through that is either a certification scheme or demanding that imported products also meet certain standards.

Mr SECKER—That is the EU line.

Prof. Cullen—It may be.

Mr ADAMS—We are trying to get that certification in wood and in tuna.

Mr WINDSOR—It is very hard with something like that, though, Peter, to drive that extra return at the marketplace back to the fellow that has made the investment in better environmental management. I just cannot see how you can make a mechanism like that work. That is why—even though a lot of people think it is oversimplification—maybe something like a regional levy but with a national structure is the better way to do it. The consumer pays.

Prof. Cullen—Does the consumer pay, or does everyone pay?

Mr WINDSOR—Everybody pays.

Mr SECKER—Everybody is the consumer.

Mr WINDSOR—And in my view so they should. That would help drive environmental change. We have to make sure we keep our eye on the ball. What are we trying to aim for here? If the farming community are not involved in the process, the process will not work. They are the vital ingredient at the start, not at the finish when everybody else has worked out how it is to be done.

Mr SECKER—As you say, you have all the supermarkets who are pushing the price down.

Mr SIDEBOTTOM—I suppose really you have to mandate this resource management. You have to mandate it; that is the only way you can do it. That has all the hallmarks of a bunfight.

Prof. Cullen—We have a bunfight now. The present system ‘ain’t’ working. We are trying to find a way forward.

Ms LEY—The national resource police is a bit of a worry.

Prof. Cullen—Yes.

Ms LEY—What do I have to do to get the rebate? Out come a barrage of consultants who say, ‘This is what you have to do to get the rebate.’ Then they say, ‘Oh, you’ve done this. Yes, you’ll get the rebate.’ It is horrific.

Mr ADAMS—I think we have to look at it in the perspective of what happened to the manufacturing industry in Melbourne, because they needed to change. This is the point I want to raise with Peter: how do we drive the cultural change of how we do things in Australia now and how we are going to have to do things in the future? That is mixed up with everything that we are talking about. I see that you have ‘farming without harming’, but it really is the change.

I saw two programs this week in which people have shown how they are farming. I have people in my electorate who are farming very differently from how they used to. There are people with two garages feeding 30 deer, because they are doing it out of the garages by getting seeds to shoot et cetera—it is a whole new concept of farming. There are new concepts that people around this table have not thought about. That is the way that I think will bring change, but we really have to lift the way we are looking at things. Has any work been done in that area? Are there any ideas out there that we can start putting through on what we are doing in looking at this report?

Prof. Cullen—The first point is, yes, Australian farmers have a very long and proud tradition of being very innovative. They do adjust to changing circumstances and come up with better ways of achieving various outcomes. I think we have to build on that ingenuity and provide encouragement and support for that. The thing that keeps puzzling me is the gap between our leading farmers and our worst farmers. It seems to me that if we can put some pressure on the tail we can move the average up quite markedly towards our leading farmers, some of whom I think are doing outstandingly well. They seem to me to be the sort of levers we want to put on. That was the idea of some rebate type of thing. Those who were meeting the basic standard of an environmental management system—or whatever we have—did not pay anything; those who were not got a bit of incentive to do something more.

Mr ADAMS—That is like the standards we lifted on industry. Years ago when I was in the state parliament in Tasmania, industries got ministerial exemptions to dump into the creek, or into the river. All those have now gone and we have brought all industry standards up. We have lifted the standards of the quality of water that we drink now. If you cannot meet those standards, you drop off. There will be people who will drop off. That is the reality.

Prof. Cullen—I think that is true.

Mr ADAMS—Would you say that?

Prof. Cullen—Yes. We should probably find ways of helping people on very marginal land who are not making a profit anyway—and are causing a lot of damage—to get off the land.

Mr ADAMS—The economics of farming in Australia is that one in four farms do not make any money.

Prof. Cullen—The land and water audit showed for one of our recent years that 80 per cent of our profitability from agriculture was coming off one per cent of the land. We should be investing infrastructure on that one per cent.

Mr ADAMS—Would you say that there are some realities in cultural change in Australia that nobody is facing?

CHAIR—I would say the dairy industry and the pig industry have put that challenge up.

Prof. Cullen—I do not know who is facing it, but certainly there is a need for cultural change. I cannot say whether people are facing it effectively or not.

Mr FORREST—I have six themes. Some of them we are teasing around. On the one Dick Adams has just raised, your submission talks of anxiety about the way the water market operates and an anxiety about a minority of people owning the water. That is exactly what you have just confirmed by the reality of what is happening: they are the ones that have the imperative and the drive to use water smarter and grow something valuable with it. You cannot have your cake and eat it too. We have to be anxious about the small to medium operations. They are the mums and dads out there. Could you recommend any balance in all of that? I share your anxiety, but this still has to happen to drive the process.

Prof. Cullen—I cannot recommend an instrument by which you can do it. I just hear a concern amongst some of the farmers I deal with that we could end up with some multinational companies owning the water and a lot of peasant farmers getting their odd drop. No-one wants that across our rural landscape, but equally I would like to see a more efficient market than what we have now. It is not going to be a free-for-all market. It does have to be a highly managed market. Our stock market is a fairly managed market; it is not a free-for-all. We are just going to have to be smart with the way we set that up.

CHAIR—Professor, do you have time to wait while we attend a division?

Prof. Cullen—Certainly.

CHAIR—We would love to come back and continue this conversation after the division.

Proceedings suspended from 5.55 p.m. to 6.07 p.m.

CHAIR—We will resume our meeting. Thank you very much for your patience with us, Professor.

Mr FORREST—As you had no wisdom to offer on my question about the water market and the barons and so forth, we might move on. I was really impressed when I heard your blueprint for a national water plan. I have spent nine years in this place arguing for that. The other thing in your submission I noticed was the formation of a national commission, and my mind goes to all the constitutional difficulties with that. I know you will say you are not a lawyer, but I am looking for some pearls of wisdom there. How do we drive our way through the constitutional problems of a national water commission?

Prof. Cullen—There are a number of ways that this could have been achieved. When we established the Natural Resources Ministerial Council, I thought that was a very good time to

establish a group to service it beyond what they get from the bureaucracies—in terms of a think-tank that could be modelled a bit on the Murray-Darling Basin Commission or the Productivity Commission or whatever; someone to develop these ideas, do comparative studies and do analyses, and just put ideas on the table. I think we are desperately lacking that in this country. I do not think the bureaucracy has the expertise to do a lot of that now, and we are suffering because we are not getting those policy ideas coming forward.

You could do that as a joint state-federal thing if it was servicing the Natural Resources Ministerial Council. The bureaucracies have not supported that and it has not proceeded. You could argue that anything we do in this land and water area is likely to have significant federal funding involved to buy water or to invest in pipes or whatever. Maybe the federal government should establish some such think-tank, maybe modelled on the Productivity Commission or something like that, to take on that think-tank role, and it would just be under federal control. They are just a couple of models for it.

The test of this hypothesis will be over the next month as we run into the next COAG meeting as to whether the bureaucrats are able to come up with a way of implementing those water rights issues, or whether they are just going to say, 'We have to consult more.' They have been consulting since 1994, so it is not as though they have not had a long time to consult. I suspect—I hope I am wrong—that they are not able to get through it so we need to get other people who can.

Mr FORREST—Why is the bureaucracy dragging the chain? What are they looking after, empires?

Mr WINDSOR—Maybe it is the cabinet.

Prof. Cullen—I cannot answer that.

Mr FORREST—My perception is that the Murray-Darling Basin Commission is a good model. We have achieved a hell of a lot since we gave the Murray commission some teeth. Has that worked well?

Prof. Cullen—In my view it has worked well. It is very unfortunate that our current funding models of NAP and NHT are bypassing the commission. I think the commission worked well because up until those two programs came on deck it was getting substantial NHT money and it has the right process to allocate those to priority areas, in that you have the states sitting around the table, perhaps looking at what each other is saying and doing, and so you are getting a more holistic view. At the moment it is just one-on-one negotiation between the states and the federal bureaucracy and I do not think we are getting a nationwide view.

I think our structures of funding natural resource management have moved to marginalise the Murray-Darling Basin Commission, and I hope that does not feed through to a total disillusionment amongst the communities that are involved in the regional catchment committees, because they were, I think, functioning well. They were getting resources through the commission processes to implement plans and make plans, and I just hope that we have not lost that momentum by changing the funding arrangements to a state based one.

Mr FORREST—Of course, not all of Australia is in the Murray-Darling Basin. It is only one-seventh of the continent.

Prof. Cullen—Most of our production is there.

Mr FORREST—There was one statement you made, Peter, about new dams. It is not in your submission; it was one of the comments you made. We cannot fill the dams we have now. What do we want to build any more for? Why were you making that statement?

Prof. Cullen—I was just saying that a position that you are not going to have any new dams is not necessarily a permanent position. It is probably quite an appropriate position at the moment. I would not build any more dams until we are using the water we have more efficiently than we are. To think that we are not going to have to implement that COAG requirement for full economic and environmental appraisal of a dam is silly. That will come back to us some time, with our urban communities and with others, and we are going to have to go through those tests. They are appropriate tests and they should stay there.

Mr FORREST—You mentioned the outcomes of COAG. I remember in 2000 you were very critical, but it is two years on. I gather you still think we have not moved very far at all.

Prof. Cullen—COAG was an outstanding set of policy initiatives in 1994 but we have stalled. We have not implemented the hard bits. I think we need to revisit and reinvigorate that reform agenda and make sure we address the bits that we have not seriously dealt with, as well as take the next steps.

Mr SCHULTZ—Professor Cullen, whilst I can understand the need to focus on those people in the community who use a significant amount of the limited water that we have available, nobody seems to be focusing on the other users of water. There has been reference made to our urban cousins using water, but I have come out of an industry that uses a lot of water, and so has Dick. Nobody has talked about the recycling of water that is used in canneries, tanneries, abattoirs, effluent, sewage treatment plants. There are an enormous amount of savings to be made in terms of using the potable water that comes into those establishments and then goes out the drain into the systems and creates other problems.

Prof. Cullen—Yes, you are right. The reuse has been a very interesting problem. It takes me on to another, bigger agenda which is perhaps not one your committee really wants to visit, but it is to do with regulatory frameworks. At the moment we have regulatory frameworks which seem to me to be militating against innovation in the way we use water in a number of ways. We have a health regulator, we have an environmental regulator, we often have a service provider regulator, and we also have an economic regulator, and they all work totally independently. It seems to me that those regulators are very keen to be prescriptive and say, 'You will do it this way,' rather than say, 'You will achieve this outcome.' If you can give them an outcome, then there is a chance for them to be more innovative on how they get to it.

Reuse is, I think, one of the tragedies of Australia. Everyone agrees that we should be doing more of it but we just have not done very much. There are problems with the price signalling but there are also problems with the regulated framework. The health regulators basically take the position that our current water supplies are working very well so why should we take risks by recycling. We need to work our way through that. It is starting.

The Melbourne water strategy review is an interesting document which I think is now public. That has looked at a whole lot of these, but one of the things they have talked about is going into industries almost with a water auditor, to look at their practices and identify simple ways to go forward. One of the things I want to get onto the agenda now during this drought is: how come fast food joints are just hosing down vast car parks every morning to clean up their properties, when that water is scarce and valuable? What signal is that sending?

Mr FORREST—They have stopped it in Darwin at least.

CHAIR—Yes, they have. I think the problem is how to get it out to where it is really needed. That is what we have got to come up with.

Prof. Cullen—You cannot deliver the water. In fact, the urban communities are under a bit of stress, too. Their supplies are not looking all that secure and we really do not have a water literate society where people think ‘water’ and take appropriate actions. We must use this drought to try to lift the general level of water literacy amongst Australians.

CHAIR—I think you have hit the nail right on the head there.

Mr FORREST—I am very frustrated about the lack of progress in the capping of the Great Artesian Basin.

Prof. Cullen—It is happening, though.

Mr FORREST—It is pretty slow. Parliament appropriated massive amounts of funding for that in 1997 and here we are in 2002. There is some progress in South Australia but not Queensland, and very little in New South Wales.

Mr SECKER—South Australia has done all right.

Prof. Cullen—South Australia has done well.

Mr SECKER—That is what I said.

Prof. Cullen—The Wentworth Group had that in its submission—I do not know whether you picked that one up.

Mr FORREST—Yes, I read that.

Prof. Cullen—We basically said that governments have put incentives on the table for almost the last 10 years to cap and pipe bores, which is the right way to go. It is a sensible thing to do. We have lost 30 per cent of the pressure on the Great Artesian Basin by our profligate use of that water. What we have suggested is that anyone who has not bothered to take the opportunities to cap and bore that the governments are subsidising quite heavily should lose their access to the Great Artesian Basin within three years. I would just plug their bores.

Mr FORREST—It is not because we did not offer enough. So what is it?

Prof. Cullen—I do not have the details of what you are offering, but there are always people who think you are not offering enough. I was under the impression that the provisions were reasonably generous, and they were certainly accepted by South Australians. But there are some in Queensland and Northern New South Wales who may have felt that if they waited they would get a bigger proportion. I do not know what their thinking was. I think we should put the chopper on it and basically say, if they have not chosen it, they should lose access to that resource.

Mr FORREST—It is easy to see you do not have to get elected!

Ms LEY—There was a list of, if you like, the next level of proposed ways of raising the money needed and the size and scope of what is being proposed. We know that we do have to make significant changes. I think the scope is quite huge. Looking at the list of people in the Wentworth Group, my feeling from that list is that it would ultimately require a large raising of taxes in Australia. It could not really be done otherwise. You can talk about a lot of different policies, but they really come down to one thing, which is raising taxes—whether it is by levies or some other means. Would you say that the scientists in the Wentworth Group would be comfortable with that proposal—with an overall raising of taxes?

Prof. Cullen—The Wentworth Group were very clear that we were scientists trying to say what we thought had to be done. There are other people who can say better than us how it should be done. We note there are a lot of proposals on the table for how such a thing might be funded but we tried not to get drawn too far down that line.

Ms LEY—But you did list quite a few.

Prof. Cullen—We listed a number of the options. We also noted the NFF ACF \$65 billion sort of figure. We have not done any independent costings. What we basically said was, ‘Look, it’s a big lump of money and we are going to have to be serious about getting it. There are a number of proposals on the table for how we should get it.’ But we did not want to focus on one of those in particular. We think there are others who would have strong views on that. What we were trying to say was that we have to do it and we have to get quite substantial sums of money. It may well be that the tax base is part of that.

Ms LEY—Yes. It strikes me there is a difficulty. I am not saying that what the group has done or what is happening is that, as an economy, we have a loaded gun to our head saying, ‘Well, this is what needs to be done. This actually has to happen, guys, otherwise these are the very serious ramifications.’ Looking at it from an economic perspective, it has to be done by spending and raising taxes. That has to become part of the debate. I do not know that you can step back and say, ‘It’s for others to determine that.’ That will have an effect on the economy as a whole and flow on to all manner of factors that matter in everyone’s daily lives.

Prof. Cullen—We do not deny any of that. What we were saying was that we were seeing a lot of funny ideas coming out about how to drought-proof this country. We thought those of us who had worked in land and water management for 30 years or more had a few things that we thought were quite simple and easy to understand that we should put on the table. We have done that and we have been pleased with the lack of attack on those. The issue now of how to do it needs to have quite a lot of community debate. Perhaps we should move on from whether we should do these things to now start talking about how we are going to do them; look at three or

four different options for funding and doing them and get some debate on them. But I have not seen that material coming forward into the community for debate.

CHAIR—You said you should pick out three top ones and start working on them. What three would be your priority?

Prof. Cullen—The three we have identified are the property rights, the environmental flows and the clearing of native vegetation. The other two were financial ways of providing incentives for people and getting some cash flows in that. There were a lot of different options for that.

CHAIR—A lot of submissions have mentioned the use of water and saving the water that is running out of Australia. Do you have any input into that, or thoughts about that? How could that be looked into fairly quickly?

Prof. Cullen—It is my view that water that goes to an estuary or to the sea is not wasted. It is driving a whole lot of estuarine and coastal processes which have their own values to our communities. We have fishing industries built on them, we have recreational industries and we have ecosystems that are important. Similarly, I do not think water that floods into Lake Eyre is wasted. I am a scientific adviser to the Lake Eyre Basin Ministerial Forum. That is an absolutely internationally unique ecosystem and I would not want to see us do anything to fiddle with that until we knew exactly what we were doing. I do not see water which goes to a terminal wetland as wasted; it is driving quite a lot of processes.

That, of course, is one of the issues at Cubby Station, the Queensland issue. Narran Lake is a RAMSAR listed wetland. The wetlands are probably not getting as much water now as they used to. Is that going to change the character of that wetland or not? I will be reporting on that to the Queensland government next month. They are the sorts of issues: we have taken water away so what are the impacts going to be?

Mr WINDSOR—You mentioned that you are not saying that a lot of just how we do it comes through. I think we are starting to see quite a lot. You may or may not agree with some of the Pratt proposals but piping of water, for instance, is a matter of money. The technology is there. The technology is also there for the re-engineering of ground water storages so that you have twice the depth and you halve the evaporation and you actually create new water in a sense, but the missing ingredient again is money. There is a proposal with the state government at the moment for re-engineering Menindee Lakes. Are they the sorts of things you are talking about—how we get this new water back into other uses?

Prof. Cullen—There are quite a lot of ideas on the biophysical side of things, all of which are interesting and can be explored. The challenge has been how to pay for them—what is equitable; who should be compensated and who should not. At the moment I hear about a lot of hands being held out for compensation if a cloud goes past. We need to work out who has real rights and needs compensation, what changes we can make without compensation and how we are going to handle these asserted rights where people think they should be compensated just because there has been some change to their access to the resource. I think compensation is going to be part of the solution, but it is not necessarily going to be a ute load of cash to every farmer who would like one.

Mr WINDSOR—You are still not really addressing the question, though. In terms of technically saving water so that we can do something with our ecosystems—that the scientists are saying need to be improved—in terms of technically doing something about the alterations to the landscape that impact on salinity and those sorts of things, we are actually talking about clawing water back out of some systems to use in other systems, aren't we?

Prof. Cullen—Yes.

Mr WINDSOR—There is a range of engineering and other techniques that could be used to actually do that before you even get into compensating people for the loss of a product.

Prof. Cullen—That is true, but you still have to pay for those capital investments, so it is the same sort of issue—how do you fund and who funds? Yes, there are a lot of technical fixes on the table but many of those are going to be part of the final outcome. Again, we are arguing about how they get paid for and who has equity in them. I come back to the property rights issue. Until you get the property rights sorted out, no-one knows who is going to be the beneficiary of an investment, be it in infrastructure or markets or whatever else.

Mr WINDSOR—I will ask a direct question—and do not answer it if you do not want to. Do you think that the Pratt proposal for this model they are talking about—which is before the government at the moment—is a good concept?

Prof. Cullen—Which concept?

Mr WINDSOR—To develop a model for piping structures to show the extensive hypothetical savings that could be made?

Prof. Cullen—No doubt that is worth doing, and I think it will show us that there are a lot of savings to be made in various sections by piping or even just stopping evaporation. It will show us that in other reaches you pay a lot of money for very minor advances. Again, you have to subject each of those ideas to reasonably rigorous cross-benefit analysis, rather than just rushing in and saying that putting plastic pipes everywhere is the solution. It will be part of the solution and it will be an important part of the solution in some bits, but it is not a panacea for the whole Murray-Darling Basin.

CHAIR—Unfortunately our time has run out, but I did promise the last question to Dick.

Mr ADAMS—I want to get your views on the record. We have a lot of information. Is it now the time for the states and the federal government to work together by either setting up a national commission along the lines of the competition commission or whatever to get that right by them having a certain amount of money to pay out to make things happen? We need to make things happen. That is the stage we are at, and I would like your comment on that. We have a lot of scientific information to go forward. We are at least two years behind where we should be with this debate and with any action. I am not blaming state governments and I am not blaming this federal government, but is it not the mechanism we need to move forward? Can you comment on that for us?

Prof. Cullen—I agree with you. I think there has been a lot of discussion over the last five years or so; there has been a lot of concern about the water market, water rights and water

trading. There has been a lot of thinking about it. The stand-off has been that state and federal governments have not been able to work together and there has been some semblance of blame shifting with people asking, 'Who is going to carry compensation?' That seems to me to be the blockage rather than technical ideas on what to do. We do have examples with the way the National Competition Council was set up and other mechanisms whereby funding can provide some levers to get some good outcomes. That is what we have done, of course, with the COAG water reforms. Maybe that is what is required for the next round of COAG water reforms.

CHAIR—Thank you very much. I really appreciate the length of time you have given us today. We feel very privileged to have heard your evidence at the opening of our inquiry because you have given us a lot of insight into what could and should be done. I think the committee has to accept a very large responsibility now to find out how it will be done. I had another dozen questions, and I think every member on the committee would have liked to have asked a lot more questions too. We would love to have you back at a later date, if that is all right with you. We will get our secretariat to converse with you.

Prof. Cullen—Thank you. I will be very happy to come back. I guess the thinking of all of us is developing in this very active area at the moment. I look forward to your contributions.

CHAIR—Yes, most definitely, it is very appropriate. Thank you very much, Professor.

Resolved (on motion by **Ms Ley**, seconded by **Mr Forrest**):

That this committee accepts as an exhibit the document submitted by Professor Cullen entitled, *The Australian Water Experience: A Way Forward*.

Resolved (on motion by **Mr Adams**):

That this committee authorises publication of the proof transcript of the evidence given before it at public hearing this day.

Committee adjourned at 6.30 p.m.