

CORRECTED VERSION

ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Inquiry into Melbourne's future water supply

Melbourne — 10 November 2008

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Witnesses

Ms M. Crooks, project director, and

Dr W. Chamley, senior project officer, Watermark Australia.

The CHAIR — I declare open the hearing of the Environment and Natural Resources Committee inquiry into Melbourne's water supply. I welcome Mary Crooks, project director, Watermark Australia, and Wayne Chamley, senior project officer, Watermark Australia. We thank you for joining us today, and remind you that all evidence taken at the hearing today is protected by parliamentary privilege under the Constitution Act 1975 and is further subject to the provisions of the Parliamentary Committees Act 2003, and that any comments you make outside the hearing may not be afforded such privilege.

I remind you that all evidence is being recorded. I remind you to switch off any mobile phones and that transcripts will be forwarded to you within a couple of weeks after the hearing, with instructions. Thank you very much for joining us. If you can please present and take some questions later, we would very much appreciate that. We have allocated a 40-minute time slot for you.

Ms CROOKS — Thank you, Chair. Wayne and I co-authored the document you have in front of you — *Our Water Mark — Australians Making a Difference in Water Reform*. Some 37 000 copies of this have gone out nationally and across Victoria, without any promotional strategy on our part. The only reason we are not going into a reprint is that private donors funded the entire project and the reprint and I think I cannot ask them for any more.

We started this Our Water Mark project in 2001. We had finished the Purple Sage Project in Victoria. It was highly successful. It was an important process of community dialogue and debate about big issues confronting us. We said to ourselves in 2000, 'If we were so masochistic as to run a process like this again, how about we take an issue that is really complex, because it lends itself to this process? How about we take an issue that absolutely should be to the forefront of our concerns?'

We had a quick discussion about what that issue would be. It took us about 6 minutes to say it would be water. I assembled private funds from half a dozen philanthropists in 2001. In 2002 we launched the project. In 2004 we had several thousand people participate in the process at ground level. We had half a dozen eminent scientists assisting us pro bono, and we ourselves, as a small secretariat at the Victorian Women's Trust, made ourselves as expert as we could. Wayne and I then spent a good year or so pulling this publication together.

With that as background, we probably find ourselves not attached to a peak environmental group, for example, but to the Victorian Women's Trust to have, we believe, made a substantial contribution through the project to raising levels of water literacy.

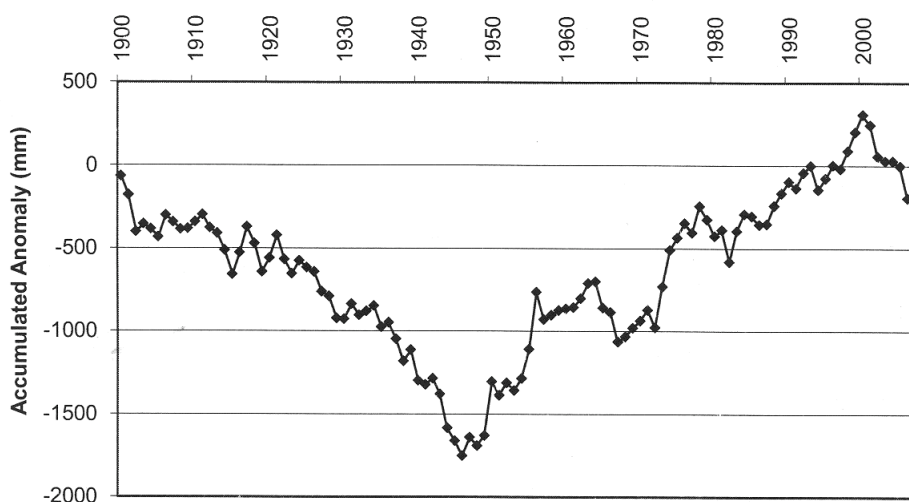
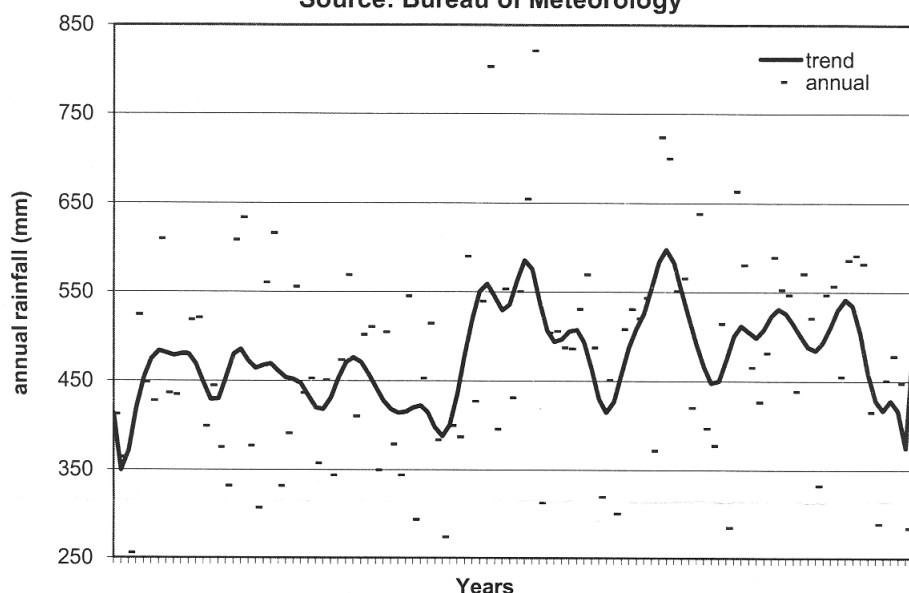
You would be astonished by the kinds of behaviours this document has triggered. Once people have the framework, once they understand the interlocking parts and the seriousness of the issues, their energy for changing behaviour at household, neighbourhood, community, regional, small business, larger business level has been extraordinary. We have many stories of that.

But down to the matter today. We have prepared a few more additional notes to our submission. For a start we want to say how important this inquiry is. There have been very few democratic avenues for debate and deep exploration of water issues in Victoria. We have been stating for some years now that we face a water crisis in this state that we believe should have this state declaring a state of emergency with respect to water and taking the Victorian community into confidence about the challenges we face and how we might get there. We believe parts of the media have been asleep at the wheel, accepting a lot of simplistic arguments about how a dam might fix everything and so on. The problem is much more complex and far-reaching than that.

I will ask Wayne to swap with me for a minute.

Graphs displayed on following page

Murray-Darling Basin Annual Average Rainfall 478 mm
Source: Bureau of Meteorology



Murray-Darling Basin Accumulated Rainfall Anomaly

Dr CHAMLEY — While those papers are being handed out, some of you might be surprised to know that the area from around about Tamworth in New South Wales to Euroa in Victoria — just up the road — is now listed with these other areas: Mexico City, Spain, the River Nile, Israel, Chad, Iraq, Turkey, the Aral Sea. We are on the list of the 10 global water hotspots identified by the United Nations.

Mrs FYFFE — The United Nations has done it?

Dr CHAMLEY — The United Nations' 10 global water hotspots. We are on there, in the United Nations' view, because 80 per cent of the food that Australians consume — not the exports but the food and fibre we consume — right along the eastern seaboard comes out of that area.

This is a re-analysis of Bureau of Meteorology data. The top graph shows you the changing average for rainfall over the Murray–Darling Basin. You cannot really make much of that, but you can do what is called a Q-sum plot which looks at how the average is changing in comparison to all the years it precedes. Each point is a plot of that measurement against the average of all the preceding plots. You can see that in the last century we had two quite distinct rainfall scenarios for the Murray–Darling Basin.

There has now been analysis done of the some 6000 weather stations across Australia, and it is exactly the same for all of Australia. We went into a period of 44 years from 1900 to 1944 with very dry weather. Then we had 50 years of relatively wet weather. We have changed again. These graphs show true inflection points — that is, when you go

to the far right you can see we are heading down again. You can see we have got a long way to go, possibly. We do not believe this is being realised.

This is not global warming-induced climate; this is another cycle before we even put globally induced warming on top. That is why we think we have a state of emergency on our hands. We could be looking at extremely dry weather for decades. The thing about it is when we started in 1900 we had a population of less than 3 million people in the country, but now we are starting with a population of 22 million, and they are all going to have to be fed, and they are all going to have to be clothed. We think that needs to be taken on. We do not think the current approaches appreciate how extreme a situation, particularly in Victoria, we are going to be facing

Ms CROOKS — We think that one of the tasks of government, state and federal, has to be to take the public at large into its confidence about the seriousness of the situation we face and not to what we would call soft sell issue around water conservation and even to be congratulating Victorians when there is a particular drop in water consumption. We need to remind ourselves that Victorians and Australians are amongst the two highest domestic water consumers on earth. To effect a drop in water savings, to effect a lowering of our consumption levels — —

The CHAIR — Who was the other high water user, Mary?

Ms CROOKS — Canada and the US. And even to reduce our consumption levels domestically down to, say, 250 litres per person per day would in fact have us still up amongst about the first four or five nations around the world. We are actually extraordinarily high consumers.

I think what worries us is that there is not enough open and honest recognition of how profligate we are. Not so much in agriculture, although there is obviously room for efficiency there, but we have some of the highest quality freshwater in the world and yet we use it once and then just run it out to sea. Most of these city skyscrapers, for example, in the CBD would test their fire sprinkler systems by using freshwater — the highest quality — and then out it goes. I think across our society there is not enough recognition of the extraordinarily addictive position we have reached over decades of easy come, easy go. I for one am astonished that I can go into my recreation and leisure centre and find an admonition that we should, for example, after our swim be restricting our showers to 4 minutes, when in fact by now there ought to be timers, for example, on every public facility so you actually cannot have shower water running for more than maybe 1 minute and 20 seconds or something.

I think we have not yet come to terms with the fact that we use a lot of water. We use more than we need, and we are timid about coming to terms with the fact that we need a revolution in our thinking in this state about the way we use and consume water, and we have to be prepared to ramp up our efforts across business, industry, households, the metropolis, regional centres and our farms to become one of the most efficient and super-efficient users of water. We have to be able to live within our water means.

One of our concerns, for example, about the desalination plant is that it should be the last resort to desalinate and not the first. The government has clearly committed to that course of action. We would say now the big danger we face as a metropolis is that the public at large will feel as though they can go on using water in much the same way because there is this unending supply. If the first desal plant cannot do it, the second one will and so will the third. The question of us ramping down our consumption to live within our means and not be addicted to desalination in time to come — the danger is that the public at large is not actually coerced and encouraged to make those major behavioural changes.

Having said that, Wayne and I noted the other week, for example, that the water retailer Yarra Valley Water indicated the degree to which it was experiencing a slump in its revenues. The other water retailers are reporting the same. We think there is a huge structural problem in this state in which our water retailers are financially encouraged to actually sell this water. At the moment, the way their revenue base is constructed, it is in their interest to try to actually sell as much water as they can. There is this gross ambiguity at work of the public at large being asked to reduce water consumption, but the water retailers being nervous about their declining revenue bases. Something has to give in terms of the Treasury–water retailer relationship so that our water retailers are rewarded for actually selling less water to both industry and domestic households.

Apart from that question, we think, unless the public at large is taken into government's confidence, there is a danger that we will not be able to effect the deep social, economic and cultural change that will be required to live sustainably in Victoria in the decades to come. For example, there has been a noticeable take-up on the part of

Melburnians in the last two to three years to put rainwater tanks in their properties where they can. The rebate system at the moment means that they are largely doing this out of the kindness of their own wallets and their own high motivation to try to play a part in this regard. But when you have reported in the press that there is a tank war going on at ministerial level between cabinet ministers, it sends a signal to people who have already made that investment that perhaps it does not matter. Perhaps it is pointless making this kind of investment. Yet when people make this investment in rainwater tanks on an increasing scale, it actually is signalling that government has an army of people, of citizens, who are already prepared to try to lead the way at the family and neighbourhood and community level. Wherever possible, that kind of leadership that is going on at a household level should be encouraged and promoted.

On that score, we are concerned that in the government's water policy paper of last year the ultimate aim of that strategy is to move Melbourne off water restrictions — that is the stated aim in the document. We are troubled by that, because we believe that restrictions provide the pointer to how we should be trying to live within our water means in the years and decades to come. Rather than seeing restrictions as some onerous and punitive approach, we think the message should be that the way we need to restrict our water now is the way we will need to be restricting our water in time to come.

Dr CHAMLEY — I just want to continue on this theme of the government's role and pick up on the water tank issue and then look at that early strategy of reducing demand. I can give you some calculations for water tanks. This takes into account what I believe is going to be the new rainfall for Melbourne, not the old one. The new rainfall is going to be about 450 millimetres a year, not nearly 700 millimetres a year. You can see there for a household to have a chance of getting at least 120 days of water from collecting rain, they need a 1650-litre tank minimum. But when you go to the government websites it talks about rebates for tanks as small as 670 litres, I think it is.

COLLECTING MELBOURNE'S RAINFALL.

Average rainfall 1900 - 1999 ~ 680 mm (28")

Average rainfall 1999 - 2009 ~ 450 mm

For an average size house with 175sq. m roof area:

3.0 mm rainfall 500 litres (L) of freshwater

Average water consumption

inside the home: 500 L potable water

For a house fitted with a water tank having 2680 Litres storage capacity:

Assume that 85% of all rainfall is collected and can be used: This would represent 60,000L of freshwater. This is equivalent to 120 days of household water use.

If the tank water is used for non-consumptive purposes ie. connect the tank to toilet, washing machine, dishwasher (and even shower), the tank water will supply 150 days of consumption at least!

COSTS

One tank of 2680 L capacity OR 4 tanks of 670 L capacity each, PLUS
Pressure pump (s). **Total costs \$2200**

Base costs of new water:

| | |
|------------------|------------------------|
| Rainwater tank | \$1.20 – 1.37 / 1000L |
| Desalination | \$1.73 – 1.98 / 1000 L |
| Treated sewerage | \$ 2.23 – 2.61 / 1000L |

Costs to retrofit 1 million houses in the Melbourne metropolis each with a tank(s) with 2680 litres capacity would be \$2.2 billion.

The CHAIR — Sorry, Wayne, before we move on, the figures that you have here, where did you get them from, just for the record?

Dr CHAMLEY — They are from Marsden Jacob Associates, the consultants to the National Water Commission. You can see that you need that size tank to be able to collect 85 per cent of every rainfall event. You can see there that at the bottom I give the comparative costing or the cost of that water compared to water that was from either treated sewage, reclaimed or from a desalination plant. There is a big place for households getting into substantial collection of their own roof water to offset the potable water.

We thought when the Bracks government came to power it certainly identified water as a key issue. It went about it by trying to attack demand. That was a good thing to do, but it was not enough to do. There was, I think, \$3.0 million in contracts let to Shannon's Way. What puzzled me was that we had various politicians, including a former minister for water and a former Premier, congratulating Melburnians for their reduced water use 'compared to the 1990s'. That was the phrase.

If you go through the media coverage, you will see figures of 15 per cent, 17 per cent, 19 per cent. We never, ever got to 15 per cent. I obtained Melbourne Water's sales figures for water for the whole metropolis. We got to 13.4 per cent. It seemed to me there was a mismatch going on between what you could actually calculate from water sales and what was being determined by Shannon's Way. I do not know how they determined their issue.

With the introduction of stage 3a restrictions, you saw the real shift. There is now a reduction of about 33 per cent. Let me explain what that means. Before the stage 3a restrictions, our domestic per capita water consumption on the property was 330 litres per day. It is now at around 230. We have brought it back down through a significant decrease. But we have got to set a target of 150. To get through this change that we are going to see, if I am right, for the next 50 years, we have got to be down at 150. We can do it. It is very simple. It is about retrofitting the city. That is what it is about. The technology exists now, but it means governments have got to get back into serious regulation of buildings and builders through building regulations, work with councils and develop a strategy to make this whole metropolis a truly water-efficient one and lock that in forever. All the second-rate stuff that is around in the hardware shops will just disappear off the market because nobody will buy it. It will not be approved by the regulations. There is a lot of rubbish out there as well as the good retrofitting gems.

Ms CROOKS — When we are talking about efficiency — and in *Our Water Mark* we set efficiency and super-efficiency as a national goal — you would be surprised, or maybe you would not be surprised, by how little the water industry properly acknowledges what real efficiency could look like. It equates efficiency with the driving down of demand. Efficiency as we have defined it in *Our Water Mark* should be the capacity to use water again and again and again until it is not possible to use it any more. That is when you can claim to be truly efficient in the way you use water. For example, we get our water bill with the stick figure diagrams from Yarra Valley Water and that shows us in the household that we are being really efficient because our consumption is down to around the 150-litre mark, but I know that we are not yet a water-efficient household. We are getting there, but there is still a long way for us to go.

We have also spelt out an imaginary scenario for Melbourne. We think that this city is smart enough and there is the will across the population with all the right encouragement. We should in fact be seeking to become an exemplary city around the world for the way we are water-efficient. I think a lot of people around the world are watching this part of Australia from a climate change point of view. They are watching to see how we handle it. They are watching and waiting because we are experiencing the sharp end of climate change and climate shift more than other parts of the world. Like all threats, I think it can be converted into a great opportunity if we are smart and use a lot of the technology that already exists. For example, over this next summer we should not be reading about sportsground managers complaining about their dry grass ovals. We should already have bladder tanks installed in every bit of open space. Melbourne has got stacks of open space. We have the space for installing below-ground tanks that could in fact have our sportsgrounds covered with fresh grass. Or we could encourage and provide incentives to all these organisations to have artificial turf laid, as some are now doing. We have got to find ways. Government is best positioned to have a lot of people break out of a herd view that it will be okay and that desalination means it is now okay and we do not have to do anything else. We are at a bit of a point in the road, I think.

We were very taken in our research by the work of Foran and Poldy, two CSIRO scientists, and their work is referenced on page 77 of *Our Water Mark*. Foran and Poldy have done an important piece of thinking about how true efficiency can actually enable us to grow our population a bit more without being too worried about the supply of water. I think it is important to say that we are not thinking about extending a few household tanks. At a time of financial crisis around the world, now is the time to be thinking about how we can best invest in people and infrastructure, and we are actually well placed to start a metropolis-wide program of retrofitting apartments, houses, old stock, new stock, and industry in this town.

It should be mandatory by now that industry not only has to audit its water use but it too has to find ways of driving down its reliance on potable water and substituting it with recycled water or whatever. We are talking about agriculture, industry, households, public facilities, parliaments, government departments, St Vincent's Hospital, every other public facility. People should be able to walk into those places in the next three or four years and find that we have achieved a massive turnaround in our approach to water efficiency. That is when we are more likely to be able to live sustainably in this southern part of the continent.

Dr CHAMLEY — Can I just leave those with you? I have done a costing of retrofitting and the savings for the metropolis of Melbourne — say, a million houses.

WATER EFFICIENCY RETROFIT OF THE GREATER METROPOLIS* OF MELBOURNE

* (1 million residences)

Water Efficiency Inside the house Water savings at 2015 Billion L per year

| | |
|--------------------------------|-------------|
| 4.5/3 litre dual flush toilets | 4.6 |
| 3* shower heads | 12.6 |
| Dead space water valves | 25 -35 |
| Pressure reduction valves | 5 – 6 |
| ----- | |
| Total water saved | 47.2 – 58.2 |

| | |
|--|----------------|
| Estimated cost per residence – Purchase of devices and fitting | \$3,000 |
| Total cost | \$ 3.0 billion |

Water Efficiency outside the House

| | |
|--------------------|-------------------|
| Water tank (2680L) | 60 billion L/year |
| Total cost | \$2.2 billion |

| | |
|--------------------------------|-------------------------------------|
| GRAND TOTAL WATER SAVED | 107.2 – 118.2 billion L/year |
|--------------------------------|-------------------------------------|

| | |
|-------------------------|-----------------------|
| GRAND TOTAL COST | \$ 5.2 billion |
|-------------------------|-----------------------|

DOMESTIC WATER EFFICIENCY IS LOCKED IN FOREVER!

The CHAIR — So these are your figures?

Dr CHAMLEY — They are our figures based on all the data in *Our Water Mark*. The water tank is the repeat of the set of figures I gave you before. You can see that if every house had a contemporary dual-flush toilet — by the way, the green plumbers tell us that 25 to 33 per cent of residences still do not have a dual-flush toilet — a certified shower head rose, what we call a dead space water valve, which is a temperature-sensitive valve that stops all the cold water coming out the hot pipe and going down the sink, and a pressure reduction valve on the outside of the water tank system, up to 60 billion litres of water would be saved. If you add the water tank scenario, it would be 118. That is not very far from the 150 gegalitres that this desalination plant is going to produce. If you look at the costs, the cost of doing all this is \$5.2 billion.

We outline in those papers that it does not even have to cost a lot of residents any money. Commonwealth funds fund the states. The states use their water retailers to start retrofitting their constituency. The household pays for their water at the rates in the current bill, but they do not use anything like the amount of water that they used to use

to get the current bill. That drop in water is sold to somewhere else and the whole system gets its money back over 25 years. This is the scale of what needs to be done. This is door-to-door selling like Optus and Foxtel do, signing people up to plans, working with the constituents, a contracted group of plumbers and whatever visiting 100 houses a day and just working the streets, and over eight or nine years you will totally transform a metropolis and lock in efficiency forever.

Ms CROOKS — We might just close our part of the presentation by making two points. First, I am realistic enough to know that it appears that the desalination project at Wonthaggi will go ahead. However, I urge that the very worst thing we could do for future generations in this state is to assume that we do not need to do anything else. We believe the challenge is that government needs to be able to show people by argument and by support that over and above any kind of reliance that we might start to build on desalinated water, we have to address the other side of the equation, which is to become super-efficient in the way we use all water, desalinated or otherwise. If government and the community at large do not do that, we risk perpetuating a profligacy about water use, not just at the economic or cultural levels, but at the ethical level. How ethical is it to leave for the next generations a legacy of being wasteful of the most precious resource of all?

My final comment would be to say: we could tell you hundreds and hundreds of stories of how individuals and groups have significantly changed their behaviour once they have read *Our Water Mark*. The lesson there is if you come clean with people about the seriousness of the situation and the threat, and you take people into your confidence about that, and they feel as though they understand and know what the situation is, they then become agents in their own way.

At the moment you could fund all sorts of campaigns over TV and full-page advertisements about the need to conserve, but all people have got to say is, 'Why? What is the problem?'. I think there are a lot of Victorians who have already understood where we have got to, but there are an awful lot who have not yet got there and they will feel as though it is still easy come, easy go.

The CHAIR — Thank you very much. We have got up to 8 minutes for questions.

Mr WALSH — Thank you, Mary. The 150 litres a head; is that potable water or total water use?

Dr CHAMLEY — That will be the potable but things like the tanks will be substituting, so it will be all water used.

Mr WALSH — So it is recycled, stormwater, whatever.

Dr CHAMLEY — Yes, but it will translate to a big shift in the potable water being used.

Ms CROOKS — It is worth pointing out, as we have in *Our Water Mark*, that the Pacific Institute a couple of years ago — and that is a reputable body in our view — calculated that a human being requires 40 litres a day in terms of sanitation, cooking, basic cleaning. Before our book went to press the ABS statistics for an average family of four in this country showed that they were using 1100 litres a day.

I think from being a kid growing up in western Victoria, when I reflect as I have done through *Our Water Mark*, on the kinds of ways in which we have ramped up our use of water, the difference between need and want is what is at stake here. We actually do not need the amount of water we are consuming, but we want the amount of water we are consuming. It is unsustainable.

Mr INGRAM — Thank you very much for the submission and presentation, there was a lot of detail in that. Looking at how you would actually achieve some type of incentive-based or demand-reduction strategy, and clearly there have been a number of ideas about water pricing put forward, you have commented on basically how hard we need to drive that reduction to the water retailers. One of the ideas that has been put forward is a type of incentive-based system which is similar to the US electricity demand so that the producer of electricity is given as much money as it would cost it to build the alternative power generation. They get the money if they can drive down the reduction, in water use in this case — they still get the same amount of money. How would you see something like this working? I am asking you which type of management option would you do.

Dr CHAMLEY — Different horses for different courses. I think incentives have to be provided to manufacturing and industry because their margins are such — the smaller ones — that they cannot do what they

have got to do without incurring big costs. But for households, I see it a different way. The key in the future to water and then energy is a behaviour change which moves from patterns of consumption that are inconspicuous — you can go home and have a 2-hour shower, I can have a 4-minute shower and nobody knows — to a situation where everything is conspicuous. I am not saying you should shower in the front yard, perish the thought! But the retailer negotiates when they sign up the plans so that people have their houses badged: a stripe for the toilet, a stripe for the shower, a stripe for the water valve, a stripe for the dead space. Every time anyone is walking up the street, everybody else knows how efficient that house is. They will all start to change.

Then you put the real estate agents on notice: in two years time for a house to come on the market it has to be retrofitted, there is some sales certificate. The water authority inspects the house; it will give the agent or the vendor the certificate or say, 'You have got to fix this house before it can be put on the market'. I know this is draconian stuff, but we live in interesting times. Look how far we can go. We have only just started on this dry spell if it is a repeat of last century, and we have got 22 million people.

Ms CROOKS — You would also resource your retailers to have divisions that would literally make it street by street by street. The thing is people are busy, people outside of this place are really busy with their families and their jobs, so you have got to make it fairly easy for people to take the step to retrofit.

We found through *Our Water Mark* that when people understand the seriousness of the problem, they are absolutely open to action. There was one case, for example, of one of *Our Water Mark* groups which did not even wait until the end of the process — those people in that group doorknocked their street of 60 houses. They signed them all up to get a discounted deal whereby plumbers would come in to audit the water use in 60 households: Italian, Greek, Lebanese households. They did the lot in that street and now they are working with everyone in the street to help them to think through the best way they can handle the cost of retrofitting.

The capacity for people in industry, in households, to actually start to bring about this revolution in our way of using water is there, but it is going to be best if they are worked with by government. But our water retailers are well placed to have separate divisions, so that they can actually get out and do these hard yards, and help people right into the process.

Mrs FYFFE — Just before I ask my question, in the figures you were quoting, you were putting Australia in with other countries including Israel; my understanding is that Israel's water consumption is 260 litres?

Dr CHAMLEY — It may well be. Israel's problem is one of political precariousness in that if the Golan Heights were to be wiped out, then a substantial amount of — —

Mrs FYFFE — But at this moment in this time — —

Dr CHAMLEY — We have got a different figure in that book and I think it is way below that, but you may have more recent data.

Mrs FYFFE — Okay, I will stand to be corrected. It is interesting how you talk about water consumption and how we can bring it down. It has been suggested to me outside this forum that a household should be allocated X amount of water depending on the number of people living in that household and how that would be managed. Then it would be up to you how you used that water, whether you showered every day or whether you watered your garden or whatever you chose to do.

The arguments against that were if you have people come to stay, what are you going to do? Are you going to give them ration books so that you actually get more water in? It raises all sorts of possibilities and complications of how these things can happen. What are your thoughts?

Dr CHAMLEY — I think that is far too complicated. If you look at the experience when the Thatcher government privatised the water industry, water in fact was rationed to low households, be it through price, and public health statistics went through the roof. I just think that is a risk you would not take. People will stop washing their hands, keeping themselves clean, and then you have all the disease. It was a disaster in some of the big cities in Britain, and I just do not think that is the way to go.

This is very simple. You simply say to the water retailers, 'You have got another business to set up apart from selling water, you have got a new business, fit out your constituencies. You have got to 10 years to do it, and away you go'.

Ms CROOKS — It also comes back to there are ways of doing things here that also protect and preserve social cohesion and do not set up divisions amongst people and neighbours, with people sinking bores in their backyard when they should not be, and so on. If you impose a fairly constrained model like that on people and they do not know why you are doing it, it sets up resistance and tension.

Our experience in *Our Water Mark*, I stress again, is if you take people into your confidence about what the science is saying, what the demand is, how we might continue to live sustainably in this southern part of the continent, and if you respect the fact that people are not stupid, they are not empty vessels out there, but if they get good strong information in their hands and they can trust that information, they take off. You can actually get people turned on to the question of water efficiency with all the best will and intentions in the world and all the best supports. It is better to go down that aspirational path than it is to try to be clumsy and heavy-handed.

Mrs PETROVICH — Just to follow on from your last comments to something that interests me, we have seen some interesting things happening in Brisbane with the messaging they have sent, but we know that Melbourne is going to grow by an extra million people by 2030 and we all talk about sustainability. If we are going to be truly living with realistic sustainability principles, what sort of messaging do we need to send to metropolitan Melbourne if we are to be prepared for the growth by 2030? How will we, as part of a suite of things, achieve that 150 litres we keep talking about?

Ms CROOKS — I know it is terribly unpopular since Pauline Hanson days, when the last population debate in this country was hijacked, but we would say that one of the things on the national agenda from now on and over the next couple of years has to be about the kind of national population target we think we can continue to service in this country. Having said that, again Foran and Poldy's work is crucial because they show, metropolis-wide, if you effect levels of water efficiency in your water use, you can actually sustain a growth in population.

I would say I cannot imagine, frankly, how Melbourne and Victoria could grow by that extent without dramatic changes to our water use and management. I actually cannot see that it could happen cohesively and with public goodwill enhanced the whole way. We have reached a point where the crunch has come, I believe, and unless we can make some serious adaptations now and over the next few years, we face quite a contentious kind of future.

We can actually increase our population, if that is what we want to do in this town, but I do not believe we can do it properly unless we bring about wholesale understanding and practice around becoming truly water efficient, and not just seeing that as a bit of a reduction in demand, or that we can keep on having our own patterns of consumption and try to find more and more and more supplies of water.

There is a wonderful children's story called *Hershel and the Hanukkah Goblins*. Hershel is the hero who finally stops the Hanukkah goblins from wrecking their havoc. In his final test to the nasty goblins, he hands a pickle jar full of pickles to the nasty head goblin who is nasty and greedy and puts his hand in and grasps as many pickles as he can. His hand is stuck and he cannot get out. He screams at Hershel, 'Break this spell, break this spell!', and Hershel says, 'You have got it within your own power to break the spell, release all but one pickle'. There is a real metaphor there. Government is crucial in my view here and government has to do the wholesale culture change about the fact that we cannot continue to consume water the way we have. We do not need the amount of water we consume.

The CHAIR — Thanks, Mary and Wayne. We very much appreciate that.

Witnesses withdrew.