event transcript

CEDA
COMMITTEE FOR ECONOMIC DEVELOPMENT OF AUSTRALIA

Water and Waste Water in Tasmania

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Address to CEDA, Hobart, 06/07/07

Ladies and gentleman, my task is to sort of set the scene and the first thing I think we need to recognise is that water is scarce. You might sort of think if you're in Gippsland or the Hunter Valley that maybe water isn't scarce but in general it is and it's likely to get scarcer as the population grows, as we face climate change and the thing is that we have to allocate this limited water among different users so households, you and I want it to drink, make a cup of tea, have showers, a beautiful front garden; industry wants it for electricity, for pulp mills and so on; farmers want it for irrigation, for vegetables, grapes and even some really high valued crops called marijuana and then what's becoming increasingly important is we want water for the environment, protect biodiversity and to leave some legacy for our kids and the truth of the matter is that you and I as individually want some of the benefits of the water in each of those users, our well being depends on being able to have a nice long shower, a beautiful front garden, to have electricity and to have food that's been cleaned, to have vegetables and wine and also to know that we've got rivers that are pleasant to go and see or that we've left in a good state for our kids and our grandkids.

And so the trouble is we have to work out how to allocate this scarce resource. If you wanted a pristine environment that says you'd let all the water run down the river because that's the definition of pristine. That means there's nothing left for drinking and irrigation so we have to make trade offs. So the question then is how would you want to make that trade off, what would be the best way to allocate it? Well I would argue on that second dot point is you want to allocate it so that the value of the last mega litre used by a household for a shower or their garden is roughly the same as the value of the last mega litre that's used in producing hydroelectricity or in protecting biodiversity along the rivers and it's clear that we're nowhere near that in our current system. Some places water charge is by the value of your property so the marginal cost of an additional kilolitre of water to you is exactly zip, it's zero.

There are huge trade offs between consumption and environmental users of water and if you're in the mainland we have this balkanisation story that there's one lot of water for farmers and there's another lot of water for urban people and that doesn't make any logical sense at all.

What about then the provision of infrastructure so this is your dams, cleaning water, its delivery to homes and factories and also the treatment of it, the sewerage, the wastewater and so on? One of the interesting things about that is most of those facilities are subject to economies of scale, that is it's much cheaper to have just one pipeline going down a street than multiple pipelines and it's probably cheaper to have one or a few waste treatment plants for a city as big as Hobart and that opens up all sorts of opportunities for monopoly power.

It's also true that the costs of providing this infrastructure are going to vary from region to region and in particular small country towns are going to face higher costs than large cities and so that really raises the issue do we have what's called postage stamp pricing, this god dam stupid Australian egalitarian thing that a kilolitre of water will charge the same rate for every household in Tasmania or in Australia even though the costs vary dramatically. That's kind of a crazy way to efficiently allocate resources but of course it's a political challenge to get that difference but if you want to have standardised prices then you're going to run an inefficient system.

Now ideally we would want to be investing in infrastructure whether it's treatment for water quality or treatment for sewerage disposal so that the marginal benefits are roughly equal to the marginal cost and clearly Tasmania has some problems in this area.

So what then should go into the price of water and here we want to think about the cost of that water to society and I would argue it needs three components. One is the opportunity cost of water at source, the cost of treatment and delivery and also of the waste and then the external costs.

Well think about delivering water to households for showers and gardens. There is an opportunity cost in that water at a minimum for foregone environmental flows. So taking water out of a dam for zero is not really a relevant story. It's taking water away from environment or industry or agriculture so there's an opportunity value there. Cost of treatment and delivery that's what we tend to focus on. There's also costs of externalities with water. We could just dump all our sewerage straight into the Derwent. There's a real cost in that. Makes the Derwent stink, it's unhealthy etcetera, etcetera and that's why we have regulations and controls. So what we would suggest is that you would set the price of water equal to its marginal cost that has in that the opportunity value of water, the cost of treatment delivery and any externality charge and you'd use that for allocation and you'd use it for investment and this is where I would argue that markets are pretty good at allocating water just as they're pretty good at allocating bananas, electricity, gas, housing and other products. What they do is individuals reveal how much they're willing to pay for water so if I'm a home owner and I don't give a stuff about my gardens, I don't want to pay anything for water for my garden, I have a crappy garden but I have lots of money for other things. On the other hand if Carol, my Chair, really values her garden and is willing to pay for it she buys lots of water, she has a really nice garden and she doesn't have as much to spend on other things. Carol's happy with her beautiful garden, I'm happy with my crappy garden and the market works that out. Nobody in Davy Street is going to know Carol's preferences or my preferences, the market reveals what individuals want to do and again we can go and say the same thing for irrigation. If some farmer are willing to invest in drip systems, land levelling, running their water at night because they want to save water they can do it or you can have a neighbour as my wife's farmer has in northern Victoria who likes doing spray irrigation in the middle of summer when it's 40 degrees, the wind is about 50 k's and maybe 30% of the water he puts up in the air reaches the ground and I asked him why do you do that Alan and he said John you know I know I could save water by doing it at night but shit I like drinking beer and watching TV at night and because water is cheap that's what he does. Under a market if Alan wanted to waste water that's his choice, that's what a market would open up for you. Again it would signal investments.

So let's look at a simple example. Suppose we've got two users of water, A. might be me who doesn't value my lawn and B. might be Carol who really values her lawn and so I'm only willing to put thirty bucks a mega litre on water, Carol's willing to buy fifty and we've both been allocated x kilolitres of water each. Suppose we set up a market and strike a price that's half way between it at forty bucks. I give up that water that was only worth thirty to me and I get forty in my pocket, I'm ten bucks ahead. Carol who had a sort of miserable lawn now buys that water off me, she values it at fifty, it only costs her forty, she's ten bucks ahead. In net we're twenty bucks ahead. This is a win-win deal. That's exactly the same story about trading water between the rural and the urban sector. If it turns out farmers don't value it very highly relative to us urbanites then the farmer gets a nice superannuation payout.

I've got a nice lawn, I'm happier, we are both winners. And further that forty dollars then signals to investors either to put in pipelines on channels or to bring in a desal plant or whatever to expand that water if it's worthwhile.

But of course markets don't solve everything, they only work if you've got very clear property rights, you know who owns the water, you have a good measurement system and when it transfers hands you know who's got it and clearly there are areas of market failure. The classic one is the environment. Environmental benefits are what we call a public good so if I keep water running down a river and that maintains the fish and the local plants my benefits don't really reduce the benefits of everybody else in this room and if I've spent that money to protect the environment I can't exclude the rest of you from knowing I protected the environment so your decision is bugger it, let Freebairn do it, he's a wealthy academic, let me pay for it and I'll get all these benefits for free but then I say no, no, all you Hobart people you've been looked after by Johnny Howard, you're all the wealthy people, I'll let you do it, I'll free ride. The result is that nobody then looks after the environment so Government clearly has to step in. Now whether they step in by saying x percent of the water goes down for the environment or whether you in charge Peter Garret with x billion dollars to buy some water to compete against irrigators and households is an interesting issue to be worked through. Again markets will fail because of the infrastructure story, the natural monopoly, it's cheaper to have one provider rather than two but if we give one provider open slather he or she will exploit their market power so we need to have either regulations or Government ownership, something like that so we'll end up with a mixed system.

In terms of the infrastructure, delivering and treating water, the relevant costs we need to look into are the operating costs, repairs and maintenance, evaporation, seepage, wastage, new investment costs and in some cases there'll be a scarcity rent. The classic example is along the Murray where the Barmah choke actually restricts the amount of water that can be run down the Murray for a couple of months of the year. One way to allocate that scarce capacity to whoever values it the most is to have a scarcity rent. That's how we allocate prime land around the Constitution Dock here. The rents are high. Only those who really value it are willing to pay the rents and the rest of us who don't value that much live out in the suburbs.

What about the equity concerns with markets? Well I would argue markets are voluntarily and mutual beneficial transactions. The seller only sells if they get more money than the water is worth to them. The buyer only buys if it's worth more to them than they have to pay for it. And then we get all these stories of water is a necessity of life, there's something special and peculiar about water. It's certainly hard to get on without water, I'd quite happily live on wine but it gets a bit tough on the liver but there are other things like food, why isn't food a special necessity of life and again we might argue that water is a small share of total expenditure even for low income households but suppose you do decide you've got to make a political compromise, we've got to give people a basic amount of water. Well it seems to me then you only want a two step schedule, you don't want the crazy Melbourne one of three steps or the Western Australian one of five steps. You give an initial basic block that fits the necessities, enough water and ideally it would be not per household, it would be weighted per kids or members in the household to shower, for cooking, to run the toilet and washing, end of story then if they want to have long showers, wash the car, waste it on the garden then they buy it at this new tariff that's set at the marginal cost of water.

So I think we can have a mixed system. We need to develop markets much more but Governments have a clear role to play and we can then get sensible guides from market prices as to who values scarce water and when are new investments justified. Thank you very much.

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