Commentary by **Professor Peter Cullen**, Commissioner
National Water Commission

CEDA Water Series Part 1

Addressing Sydney's Water Infrastructure Challenges

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I would like to thank Dr Schott for a stimulating and challenging address. We do seem to be planning in the face of great uncertainty in terms of the climate we live in, but also in the populations we serve and what they will seek from water providers and from the aquatic environments as we move into the 21st century.

Dr Schott's address raises three questions for me.

Firstly, have we reached the limit with demand management? While the residents of Sydney have observed the water restrictions and have reduced usage, will they get exhausted with restrictions and become less accommodating as restrictions drag on. How reasonable is it that urban Australians are using around 220 litres /hd/day in their residences and a further 70 litres in their workplaces.

After previous droughts we have observed a bounce back in water usage once the memory fades. In this drought we are starting to see impatience as homeowners see their gardens shrivel, and there are calls for unlimited water for those who can pay. Of course they can make provisions with rain tanks now, but many do not want to pay the costs. The Prime Minister himself as said that permanent restrictions are unacceptable in our cities, and the current restrictions have caused great economic hardship to the garden industry. Is there a need to move beyond rhetoric to mandating water efficiency appliances and fitting – especially in hotels and commercial buildings where voluntary codes seem a joke?

Secondly, how can we link urban expansion with water supply?

In the last century sub-dividers built their blocks and utilities were expected to supply water and sewage services. This century, in over allocated catchments, irrigators must buy a water entitlement from an existing holder. Can we use this key principle of the National Water Initiative in urban areas and require developers to show where the water comes from – existing users or new water from somewhere – desalination or recycling. This could drive real innovation in Water Sensitive Urban Developments.

My third point relates to pricing, and in particular how we might build the externalities of our water industry into pricing. This key principle is regularly agreed by Governments when they sign on to water reform, starting with the 1994 CoAG reforms, and is just as regularly ignored as soon as they get home and face the voters who don't want to pay more. In particular, we need to charge for the full costs of treating waters so that they can be discharged to the environment without harm, or recycled. Taking a free subsidy from the environment by discharging partially treated wastes makes recycling economically difficult.

The National Water Initiative is our blueprint for water reform, but is relatively silent on the challenges of water scarcity facing urban Australia. While designed to confront the chronic problems of rural water and over allocation, the framework of the NWI does provide us with the way forward for urban water, and explicitly makes the links between urban and rural water. The principles are simple:

- Measure and control all of the available resource
- Allocate the consumptive pool efficiently to competing uses

Understanding the available resource

- Think whole water cycle – rainfall, catchment water, urban runoff, wastewater streams, groundwater and the sea. What might be available from other catchments?
- Understand the sustainable levels of extraction of each – realizing that this does not mean an average or a set percentage but is driven by extreme events.
- Operating beyond this sustainable level of extraction is just mining the resource that may collapse without warning once some threshold is reached.

- How might these sustainable levels change with predicted climate shifts
- Measure and report so all can make more informed decisions

The challenge for urban Australia is to start thinking of the whole water cycle as a single system. We must consider all sources of water and make the best use of what we have. It seems to be getting less.