

A Tale of two Infrastructures: the Future of Water and Energy use in our Cities

Professor Stuart White, Director of the Institute for Sustainable Futures at the University of Technology, Sydney

Date: Wednesday, 28th February, 2007

Time: 6:30

Venue: Engineers Australia Auditorium in Chatswood

A TALE OF TWO INFRASTRUCTURES

The lecture for February was the Four Societies Lecture by Professor Stuart White who is Director of the Institute for Sustainable Futures at the University of Technology, Sydney and dealt with the future of water and energy use in our cities. Professor White leads a research team that is internationally recognised for its work in integrated resource planning for urban water. He has an honours degree in nuclear physics from the University of Western Australia, and completed his PhD at the Solar Energy Group at the University of Sydney.

The lecture was held at the Engineers Australia Auditorium in Chatswood on 28th of February. It was of particular topical interest as at last the general public and hence some of our political leaders, are coming to believe what scientists have been telling them for decades. The earth is warming due to our profligate waste of energy and CO₂ emissions in the atmosphere and this is likely to cause catastrophic changes in our climate.

Of more immediate concern for our cities is water shortage. The energy cost of supplying water has increased and will increase even more in the future. We have progressed from catching diseases from the contaminated Tank Stream to an expensive centralised clean water supply in the late 1800's to today's need to save and recycle water. In some parts of the world there is a trend away from large centralised systems, even to having large buildings recycle their own waste to save the energy needed to transport it. Sewer systems don't become cheaper with increasing size. The Docklands system in Melbourne is perhaps optimal. An economic problem with the traditional system is that the pipes and infrastructure have to be paid for years before they are fully utilised.

There are big savings in both energy and water use from building design changes, for example storing rain water and effluent under buildings and using it for cooling. As this adds to the initial cost it is unlikely to happen without government regulations. A combination of drought and elections is unlikely to lead to optimal solutions.

Report on the General Monthly Meeting
by Jak Kelly