

Contribution to The Pulse supplement

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Sustainable water management: unprecedented challenges – potential solutions

One day, it stopped raining in Perth, Australia. Actually, it didn't happen in a day or a month. But in as little as one decade, the stream flows into Perth's reservoirs fell by one-half, and they were already down by one-half from levels in the mid-1970s. Can you imagine being responsible for supplying water supply to a city the size of San Diego and having to come to terms with the fact that your principal source of supply – reservoirs fed by rain – were dry holes? This is the situation that Jim Gill, the Chief Executive of Water Corporation of Western Australia, and his management team have found themselves in over the past 7 years. And while others might have "melted" under the pressure of these circumstances, Jim and his team kept their cool and have emerged as real leaders in the challenging new circumstances facing water suppliers in many parts of the world, particularly Australia. A big part of the near term solution to Perth's water shortfall is a very large and sophisticated desalination plant that was constructed in record time and features a zero carbon footprint power supply. And as significant as this plant is, what has really impressed me and others is Perth's fundamental rethink of their overall resource strategy of which the desalination plant is but one (albeit large) element. The late Gary Meinck, a highly admired member of Jim's management team coined the term "security through diversity" and helped spearhead the adoption of a new portfolio-based approach to water resources development. Instead of concentrating on "the" next source of supply", as has been the case for many water suppliers in this century, Perth, Singapore and the Gold Coast, Australia, to name a few of the leaders, have adopted a portfolio-approach to developing new supplies – combining aggressive levels of conservation and leakage reduction with reuse, desalination, storm water recovery and water trading. It seems to me that by thinking of water resource development in portfolio terms, Perth and other likeminded utilities faced with very limited resources are in a better position to minimise financial and supply source risks, in much the same ways that portfolios help reduce the risks associated with financial investments. At the same time, a portfolio approach can help optimise a utility's environmental strategy, leading to more sustainable solutions over time. A combination of population growth in dry areas, urbanisation, climate change and rising environmental standards are placing more and more utilities in the position of having to cope with significant increases in demand in the face of scarce resources.

Increasingly, the utilities will also need to turn to the cities that they serve and work with the Mayors, city planners and others to engineer new urban forms that together with the actions of the utilities result in a significantly smaller ecological footprint for the urban area. In this context, cities need to work together and ultimately, to learn a lot from each other in shaping the future for water and urbanity in what some would say are urgent circumstances.

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