

# Water Management: Turning Vulnerability into Opportunity

SINGAPORE,  
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Water (or the lack thereof) has been a critical issue for Singapore since gaining independence in 1965, with the city-state determined to become truly self-sustainable in this area. However, the unique aspect of Singapore's water management journey has not been its success in nearly reaching complete self-sustainability, but that it has managed to convert this area of vulnerability into opportunity.

## Project overview

Singapore's water management strategy must be seen as part of a wider vision to secure the city-state's sustainable competitiveness. Its 'Four National Taps' long-term water supply strategy, coupled with its 'Active, Beautiful, Clean Waters' (ABC Waters) programme, aim to integrate water bodies with the surrounding environment in a holistic way. Focusing beyond enhancing Singapore's water security, these initiatives also play an important role in the nation's economic trajectory and global positioning. While extracting economic value is not an explicitly stated goal of Singapore's water management strategy, the city-state aims to grow the value-added contribution from its water sector from S\$0.5 billion in 2003 (0.3 percent of GDP) to S\$1.7 billion (0.6 percent of GDP) by 2015, and has invested heavily in R&D and technology as a result.

## Results and impact

Singapore's success in strengthening its water supply through comprehensive policies and new water technologies such as water reclamation (NEWater) and desalination to boost its water supply, has gained

international recognition, evidenced by PUB (Singapore's National Water Agency) winning the Stockholm Industry Water Award in 2007. Accordingly, the country is increasingly seen as a model of sustainable water management, which has in turn facilitated its positioning as a 'Global Hydrohub' for water technologies. Today, the city-state is home to approximately 130 local and international water companies and 26 research institutes operating in a vibrant ecosystem. Many of these Singapore-based water companies have successfully exported water expertise to key overseas markets such as China and the Middle East, and have secured more than 100 international projects worth more than \$10 billion between 2006 and 2010.

## Enablers

There are a number of critical factors that have led to Singapore's successful water management strategy as well as leveraging economic value for the nation. Firstly, Singapore's holistic approach to water management has been pragmatic (a matter of survival) but has also focused on using its success to create economic value for the city-state, allowing the city to position itself as a global player in the water industry. Secondly, long-sighted integrated planning and strong coordination between government agencies have made the Four National Taps and ABC Waters programmes possible. This has been consistently linked to a strong common vision and ownership of the role and importance of water to the nation. Thirdly, the government effectively paved the way for innovation through new water technologies (e.g. NEWater) by bearing the initial demand and technological risks, and subsequently easing the transition to privatisation through sharing knowledge and expertise with the private sector. Lastly, by 'putting their money where their mouth is', the government sent strong signals of support for the water sector through significant investment in R&D and technology, demonstrating strong political will to 'make it happen'. Accordingly, city mayors around the world can learn from the city-state's strong and courageous leadership and long-term perspective and from city official's foresight in facilitating, and even driving, the development of unconventional and new technologies in emerging industries.

