

# Radical changes needed to quench the world's thirst

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Korea pushes research and development for global water market. Busan, a city of almost 4 million and host of the IWA World Water Congress and Exhibition, will be operating the world's largest seawater reverse osmosis plant of its kind in 2013.

In the next 40 years urban populations will grow by at least 1 million every week.

“Water professionals need to change the way they think about sourcing water, and using it over and over again,” according to International Water Association’s (IWA) executive director, Paul Reiter.

Mr Reiter announced at a press conference in Seoul today that future technologies and approaches to providing sustainable water solutions will be centre stage at the upcoming IWA World Water Congress & Exhibition in [Korea](#) in September.

He says the most important message of the Congress for the expected 5,000 water professionals who attend will be to hasten the uptake of these new water management options.

“We need to break the orthodox approach to delivering water to urban communities,” says Mr Reiter.

Across the globe, water is an issue for many different reasons, including stable supply, sanitation, drainage, wastewater reuse, industrial

management, or the environmental impact of new water technologies.

Between 2009 and 2050, urban populations alone are projected to increase by 2.9 billion to 6.3 billion. This equates to a new city every week with a population of around one to 1.5 million—similar to Auckland, Harare, Kuala Lumpur, Beirut, Copenhagen, Brisbane or Prague.

“We are facing this rather daunting problem of getting water to people who aren’t even served today—and on top of that, serving the million people a week who are coming into cities,” says Mr Reiter.

## **Korea’s ambitious desalination research projects**

Busan, a city of almost 4 million and host of the IWA World Water Congress and [Exhibition](#), will significantly raise global standards for water treatment technologies, including seawater engineering and desalination.

In 2013, the city will be operating the world’s largest seawater reverse osmosis plant of its kind based on a measure of its unit train and membrane size. The plant will use membranes with a 16-inch diameter—double that of the current global standard.

“The purpose of the Busan project is to do the research and development, operate the technology on a practical level, then export the core technologies,” says Professor In S. Kim, executive director of the Center for Seawater Desalination Plant in Korea.

“The greatest benefit will be the outcomes of the research and development that can be used in regions of the world where there are long-term water shortages, especially with the uncertainties presented by climate change.

"The project is aimed at exploring overseas markets by developing integral and strategic technologies," said Professor Kim.

Seawater reverse osmosis desalination requires a lot of steps—intake, pre-treatment, the [reverse osmosis](#) process, and post-treatment processing.

"A lot of the tasks in the research are required to be solved or improved and this will present a lot of opportunities in the water sector," says Professor Kim.

## **Securing public trust in water supplies**

Young-Whan Kim, Director General for Busan City's Environment and Green Zone Bureau, says the citizens of Busan have a deep distrust of the Nakdong River water intake, which supplies 94 per cent of the city's drinking water.

"It was necessary for Busan City to find an alternative source of water supply that can replace the Nakdong River, which suffered frequent water pollution accidents in the past," Mr Kim says.

"We have decided to implement the new desalination plant project to restore public trust in the overall water supply system," Mr Kim says.

"There has been no back-up source of water supply in case of any river pollution accidents. The new desalination plant, therefore, promises to diversify the sources of water resources and produce high-quality tap water for Busan."

The new desalination plant will be capable of producing 45 million litres of water daily, which is enough to provide drinking water for 50,000 households. The average [water](#) use per person per day in Busan is 301

litres.

Provided by ResearchSEA

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