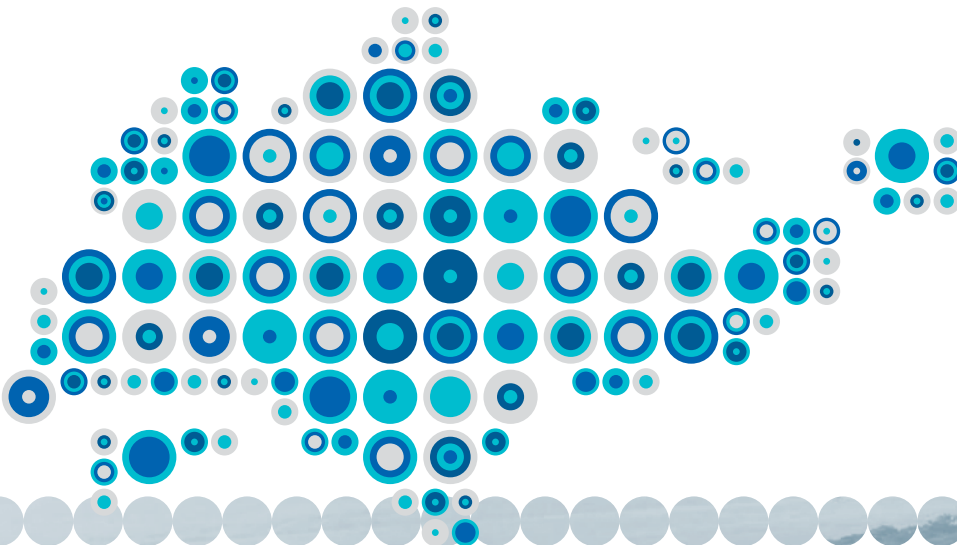
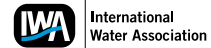


# WATER CONVENTION 2014

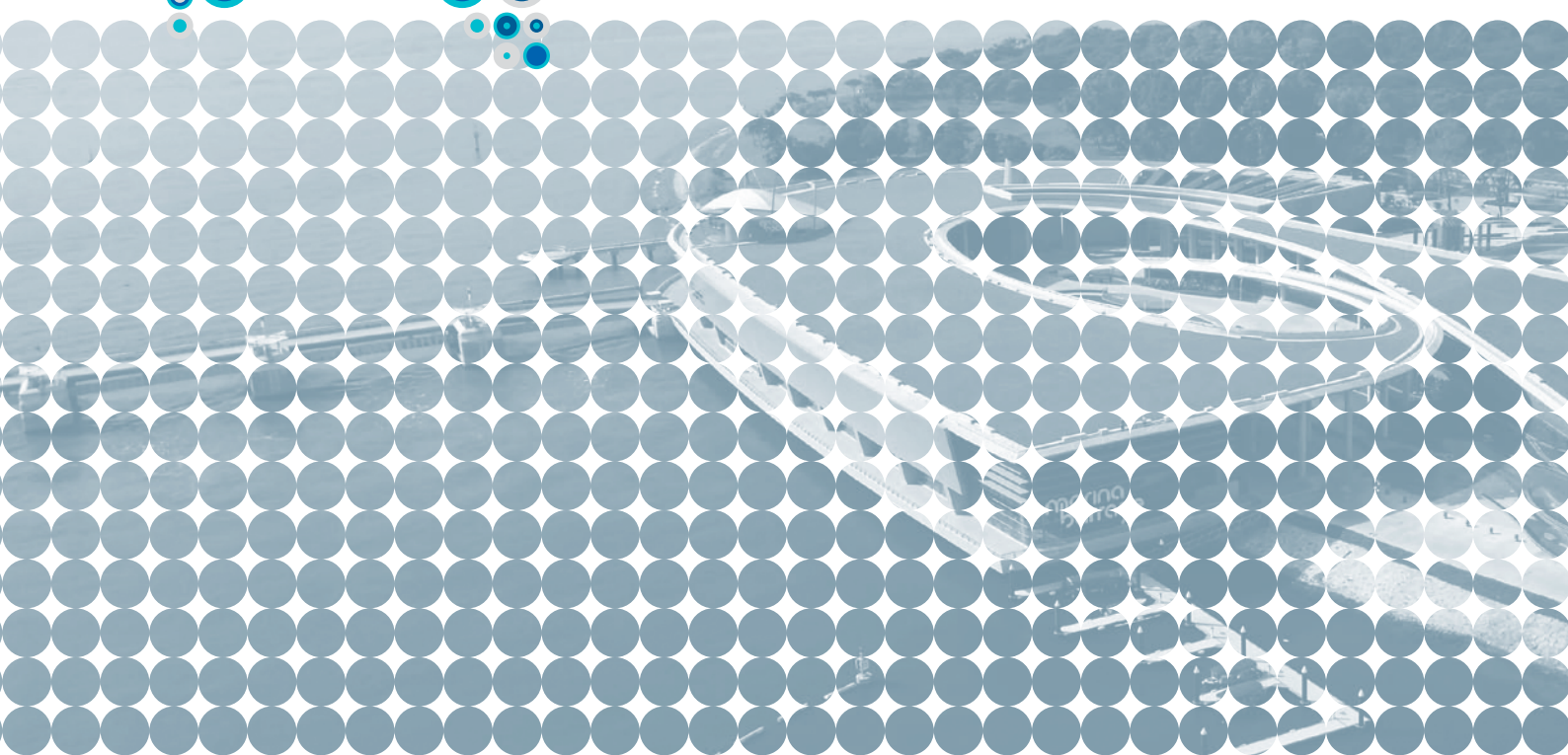
## CALL FOR PAPERS



WATER CONVENTION IS JOINTLY  
ORGANISED BY:



International  
Water Association



# MESSAGE FROM THE EXECUTIVE DIRECTOR OF THE ENVIRONMENT & WATER INDUSTRY PROGRAMME OFFICE

---



**CHEW MEN LEONG**

**Executive Director**  
Environment and Water  
Industry Programme Office  
**Chief Executive**  
PUB, Singapore

It is with great pleasure that I warmly invite you to attend Singapore International Water Week (SIWW) 2014.

As the global platform for the sharing and co-creation of innovative water solutions, SIWW attracts decision makers across the entire water value chain, allowing the global water industry to collaborate on new market opportunities. The highlights of SIWW include the Water Convention, Water Leaders Summit, Water Expo, Business Forums as well as the presentation of the Lee Kuan Yew Water Prize, a prestigious international award that acknowledges outstanding contributions towards solving the world's water issues.

The fifth edition of SIWW in 2012 achieved a new record of S\$13.6 billion in total value of announcements on projects awarded, tenders, investments, and R&D MOUs made at the event. It also attracted a record of more than 19,000 participants from 104 countries and regions. The Water Convention, one of SIWW's flagship programmes, in turn drew more than 1,200 participants, and showcased over 150 oral presentations and 170 poster presentations.

SIWW 2014 will continue to be held in conjunction with the World Cities Summit and the CleanEnviro Summit Singapore from 1–5 June 2014 in Singapore, in an integrated showcase of urban sustainability. Look out for a slew of activities in 2013 leading up to SIWW 2014, beginning with the Lee Kuan Yew Water Prize Call for Nominations in January 2013.

The Water Convention 2014 Call for Papers commences in February 2013. Building on the four discussion themes of SIWW 2014, *Municipal Water*, *Industrial Water*, *Integrated City–Environment–Water*, and *Future of Water*, the Water Convention will offer forward-looking solutions to meet future challenges and scenarios. It is hoped that this event will draw delegates into in-depth discussions on the latest water treatment technologies and management strategies, and address issues of water quality and health in line with global water industry trends. "Water for Industries" is a new track specifically intended to create dialogue on solutions for the industrial sector, which has been identified as the second largest consumer of water globally. I am confident that the Water Convention will provide an oasis of networking opportunities for industry practitioners and provide a rewarding experience for all.

In September 2013, we will be organising the inaugural SIWW Water Utilities Leaders Forum – "*Mapping Challenges & Solutions*". The Forum is an intimate, by-invitation only event that will focus on water utilities' challenges and solutions. The outcome of the discussion among the water leaders will be shared at SIWW 2014.

I look forward to seeing you in Singapore in June 2014.

# MESSAGE FROM THE PRESIDENT OF THE INTERNATIONAL WATER ASSOCIATION

---



**GLEN T. DAIGGER**  
**President**  
International Water  
Association

The International Water Association is delighted to continue its association with Singapore International Water Week (SIWW) in 2014, for a sixth successive time as its strategic partner and co-organiser of the Water Convention.

Within a short span of time, Singapore International Water Week has firmly established itself as one of the premier global water events for showcasing sustainable and proven solutions to the world's urban water challenges. With SIWW moving to a biennial cycle, the 2014 show takes on an increased importance, particularly for Asia.

The water woes that we face today are the result of water mismanagement. These challenges require all of us as water professionals to be able to think creatively, work collaboratively, and act swiftly. We must review conventional norms, think out of the box, and try new ideas and approaches on a

suite of management issues ranging from governance to planning and technological solutions. It requires us to work in partnership with professionals from other fields such as urban planners, water resources engineers, and health authorities as water is a complex issue that cuts across every strata of society. It requires us to act more quickly in an increasingly urbanised world.

At the SIWW 2014 Water Convention, we will create a dialogue on these issues and collectively formulate a shared roadmap on sustainable approaches to tackle our water challenges. I invite you, as global water leaders, to come and contribute to the discussions at the event.

# MESSAGE FROM THE CO-CHAIRS OF THE WATER CONVENTION 2014 PROGRAMME COMMITTEE

---



**HARRY SEAH**  
Chief Technology Officer  
PUB, Singapore



**DARRYL DAY**  
General Manager,  
Remote Operations  
Power and Water Corporation,  
Australia

It gives us great pleasure to welcome you to the Water Convention, one of the flagship events of Singapore International Water Week (SIWW) 2014.

The success of Water Convention 2012 reaffirmed its role as a platform for industry experts, practitioners, and academia to share their expertise and stay abreast of current developments in the water world. More than 1,200 delegates from 60 countries attended Water Convention 2012, where over 150 oral presentations and 170 poster presentations were showcased.

In line with SIWW 2014's discussion on the four themes of *Municipal Water*, *Industrial Water*, *Integrated City-Environment-Water*, and *Future of Water*, Water Convention 2014 aims to bring together the world's water practitioners to share and exchange ideas on technological and management advances in water and wastewater, water resilience for cities, water quality and health, and water for industries.

The themes of the Water Convention are designed to examine the trends and challenges facing East Asia, Asia Pacific and the Middle East regions. The popular "Hot Issues" Workshops will once again be a prominent feature in 2014, and will strive to provide an engaging platform for the discussion of the latest developments in the global water scene.

We look forward to receiving your abstract submissions for Water Convention 2014. Let this be a platform for you to share your experiences and for others to learn, so that we, as a global water community, can ensure a high level of proficiency and efficiency in the delivery of water for generations to come.

# WATER CONVENTION 2014

## PROGRAMME

### COMMITTEE MEMBERS

---

#### **HARRY SEAH**

Chief Technology Officer  
PUB (Singapore)

#### **DARRYL DAY**

General Manager  
Remote Operations,  
Power and Water  
Corporation (Australia)

#### **ADAM LOVELL**

Executive Director  
Water Services Association  
of Australia (Australia)

#### **ALAN BAIRD**

Senior Water Supply and  
Sanitation Specialist  
Asian Development Bank  
(Philippines)

#### **ALBERT JANSSEN**

Global R&D Coordinator  
Water Handling,  
Shell (The Netherlands)

#### **ANDREW SHAW**

Global Practice and  
Technology Leader in  
Sustainability and Wastewater,  
Black & Veatch (USA)

#### **CHONG HOU CHUN**

Director  
Water Supply Network,  
PUB (Singapore)

#### **D.V. DARSHANE**

Director  
Policy, Product & Technology,  
The Coca-Cola Company (USA)

#### **DORAI NARAYANA**

Senior Manager  
Planning & Engineering Department,  
Indah Water Konsortium (Malaysia)

#### **ENRIQUE LOPEZ CALVA**

Technical Director  
Neysadurai Centre,  
CDM Smith (Singapore)

#### **JERRY LIU JIANLIN**

Vice President  
Water – Process and Technology,  
Sembcorp Industries Ltd (Singapore)

#### **JOHAN GROEN**

Chief Technology Officer  
Xylem Inc. (USA)

#### **JONATHAN CLEMENT**

Director  
PWN Technologies  
(The Netherlands)

#### **MARION SAVILL**

Executive Director  
Affordable Water (New Zealand)

#### **MARTIN WAGNER**

Professor  
Technical University of Darmstadt  
(Germany)

#### **ONG CHOON NAM**

Director  
NUS Environmental Research Institute,  
National University of Singapore  
(Singapore)

#### **PASCAL DAUTHUILLE**

Director  
Projects, CIRSEE,  
Suez Environnement (France)

#### **PAUL REITER**

Strategy Advisor  
International Water Association  
(Singapore)

#### **RAMON ALIKPALA**

Chairman  
Metropolitan Waterworks and  
Sewerage System (Philippines)

#### **ROBERT BOS**

Coordinator  
Water, Sanitation,  
Hygiene and Health,  
World Health Organization  
(Switzerland)

#### **ROBERT SKINNER**

Professorial Fellow  
Centre for Water Sensitive Cities,  
Monash University (Australia)

#### **TAO LI**

Director  
IWA China Regional Office,  
International Water Association (China)

#### **TSUI WAI**

Deputy Director  
Drainage Services Department  
(Hong Kong)



# THEMES FOR WATER CONVENTION 2014

In its sixth year, Singapore International Water Week (SIWW) 2014 reinforces a commitment to the global integration of sustainable water management strategies with urban planning processes. In line with this, the Water Convention will provide a platform for water professionals to address contemporary challenges by sharing experiences, case studies, practical applications of technological solutions, and management strategies that will improve the efficiency and effectiveness of water and wastewater systems as well as examine issues related to municipal and industrial water sustainability and urban planning.

The Water Convention 2014 continues to sustain the dialogue on a wide range of topics along five themes:

1. Delivering Water from Source to Tap
2. Effective and Efficient Wastewater Management
3. Water for Liveability and Resilience
4. Water Quality and Health
5. Water for Industries

*Water for Industries* is the latest addition to the Water Convention. It serves to highlight the importance of affecting change in the way water and wastewater is used and managed by the industrial sector, which has been identified as the second largest water-consumer in the world. Industries worldwide have been forced to search for innovative solutions to improve water sustainability across the value chain. Though currently accounting for up to 25% of the world's water consumption, many industries have yet to implement sustainable water management practices within the sector. The theme raises awareness and pools ideas to improve industrial water sustainability.

The presentations in the Water Convention aim to identify suitable technologies, processes, systems, and approaches to solve various issues faced by water practitioners worldwide. Abstracts for all listed themes and topics are welcome.

Submit your papers today, and pave the way for effective and sustainable solutions to our global water challenges.







## THEME 1: DELIVERING WATER FROM SOURCE TO TAP

Sustainable access to sufficient and safe drinking water will be a critical issue for many countries in the future. To accommodate rapid urbanisation, climate change and increasing world population, the water industry will have to consider alternative sources of raw water which are of lower quality. More effective and efficient water technologies will have to be developed to make sure that potable water quality is not compromised by using these alternative raw water sources.

To achieve long term sustainability, there is a strong need to seek water technologies which are able to optimise energy usage or utilise energy from non-conventional sources. The industries or non-domestic sectors, one of the largest consumers of our water resources, also require innovative solutions for source creation, use and recovery.

As urban infrastructure gets more complex in some cities, decentralised water treatment technologies will be the more flexible and efficient solution for provision of potable water. In recent years, the frequency of natural disasters in the world has also created the need for the water industry to explore technologies which are resilient for areas that are prone to extreme weather.

### Membrane-based Treatment Technologies

- Innovative membrane technologies
- Application of membranes
- Operation of membranes

### Disinfection and Advanced Oxidation Processes

#### Decentralised Systems

- Technologies for decentralised systems
- Operation and management of decentralised systems

#### Smart Water

- Asset management and optimisation
- Water quality monitoring and demand management
- Sensor technologies
- Non-revenue water

#### Water–Energy–Waste Nexus

- Energy optimisation/efficiency
- Energy recovery

#### Water Supply for Extreme Events

## THEME 2: EFFECTIVE AND EFFICIENT WASTEWATER MANAGEMENT

Water and energy are two critical yet competing resources in today's world. With the pressures of global warming and the rising costs of energy, the last decade has seen a paradigm shift in wastewater treatment plants from waste removal to resource recovery. The growing world population and urbanisation have led to an alarming rate of natural resource depletion and an exponential generation of waste. With stricter regulations on greenhouse gas emissions and climate change policies, energy-efficient processes in wastewater treatment are urgently sought through R&D. This theme focuses on sustainable wastewater treatment and management strategies with particular attention to waste removal from used water and resource conversion. Optimising the energy–waste–water nexus is imperative to achieving the wastewater treatment plant of the future and realising the aims of energy self-sufficiency, economic viability, and environmental sustainability. The vision is to increase energy production while decreasing energy requirements for water treatment processes that are conventionally energy-intensive. Practice and research-oriented papers on the following topics are welcome.

### Membrane-based Treatment Technologies

- Innovative membrane technologies
- Application of membranes
- Operation of membranes

### Decentralised Systems

- Technologies for decentralised wastewater systems
- Operation and management of decentralised wastewater systems

### Asset Management and Optimisation

### Water–Energy–Waste Nexus

- Energy optimisation/efficiency
- Energy and resource recovery

### Biosolids Management

### Biological Processes

## THEME 3: WATER FOR LIVEABILITY AND RESILIENCE

Climate change, rapid population growth and industrialisation are imposing complex challenges on the world's urban areas, and making it harder than ever for cities to provide safe and adequate water supply for its population and industries. The *Water for Liveability and Resilience* theme focuses on combining the experiences and expertise of governments, utility managers, industries and urban planners to develop water systems and solutions which lead to cities that are liveable and resilient in the face of these challenges. In addition, as technologies and strategies continue to evolve, governments and private sectors are also beginning to recognise the necessity of fostering dialogue with the general public in order to ensure acceptance and success of new initiatives. As such, this theme will look into case studies which demonstrate effective, sustainable and integrated planning and implementation of water systems to address the following challenges (preference will be given to case studies that address a number of these challenges simultaneously):

### Strategies to Embed Water Thinking Early in Urban Planning

### Centralised and Decentralised Systems – Flexible and Adaptive System Designs

### Optimised and Integrated Water Management System

- Weather prediction and rainfall flow modelling
- Urban design for flood control and storage

### Water–Energy–Waste Nexus

- Integrated systems for energy efficiency and recovery
- “Green” buildings and urban environments
- Urban metabolism – resource management and planning

### Groundwater for Integrated Water Supply

- Strategies for sustainable groundwater use
- Protection of groundwater water quality

### Engagement Strategies

- Engaging governments, industries, communities, and stakeholders in the planning process
- Public Education

### Multidisciplinary Capacity Building Strategies

### Ecological Health Protection Plan

### Innovative Economic Evaluation Tools for Planning and Investment Decision-Making

### Institutional and Transitional Challenges



## THEME 4: WATER QUALITY AND HEALTH

---

A reliable and sustainable supply of safe drinking water is fundamental to the protection of global public health as well as economic development. However, access to safe drinking water remains a challenge in many countries. Issues such as control of source water quality, implementation of water safety and security, development of advanced water quality monitoring, and detection and treatment of microbial/chemical contaminants are some of the emerging challenges faced by water suppliers and utilities today. In addition, with readily accessible information and better knowledge of water contaminants and their health implications, there is an increasing public demand for more stringent water quality guidelines and standards. This theme covers various aspects of water quality and health issues relevant to the provision of safe drinking water. Papers that focus on the sharing of experiences through case studies, regional issues, and practical applications are encouraged.

### Source Water Quality and Protection

- Protecting source water quality
- Monitoring and tracking of contamination
- Technologies for detection of pollutants
- Water safety plans

### Contaminants of Emerging Concern

- Detection methods
- Management and treatment technologies

### Smart Water Grid

- Real-time water quality monitoring
- Sensor technologies

---

## THEME 5: WATER FOR INDUSTRIES

---

While urbanisation and industrialisation have brought about economic growth and improved living standards, their impact on the environment and natural resources such as water has been controversial. Utilities have always been the main player in ensuring the provision of safe and adequate water supply to meet the demands of both the population and industries. But the combined pressures of rapid population, economic growth, and climate change are making this an increasingly difficult task to fulfill. The sustainability of our water resources in the near future is at risk. Over the past few years, the global industrial sector has been identified as the second largest water consumer and hence, can contribute significantly to water sustainability efforts. This contribution includes the implementation of effective water and wastewater treatment technologies as well as being open to innovative technical solutions and strategies that can increase the efficient use or reuse of water in industrial processes. The challenges in both availability of water, which calls for greater water reuse, and the quality of the water discharge, which necessitates more stringent water treatment strategies, have been recognised. However, the interdependency of water and energy still requires more attention, and strategies for recovering energy throughout processes will be of high importance. The Water Convention 2014 calls for papers on the following topics, with a focus on water-intensive industries such as oil and gas, food and beverage (F&B), and mining.

### Water Source and Demand Management in Industries

- Availability of right quality and quantity of water
- Combining different supply sources to address water source demand
- Regulatory impact on advances in water analytics and supervision
- Water conservation strategies in industries

### Innovative Industrial Processes and Water & Wastewater Treatment Technologies

- Oil & gas industry (On-shore and off-shore)
- Food & beverage industry
- Mining industry

### Energy Efficiency around Industrial Water Intake, Process Water, and Discharge

- Energy reduction through process optimisation
- Energy regeneration, recovery, or alternative energy use

# ABSTRACT SUBMISSION PROCEDURES

- Authors may submit abstracts for either oral or poster presentations.
- Abstracts are to be limited to two A4-sized pages inclusive of supporting figures and tables, and must contain adequate information to allow a sound referee review.
- All submissions must include:
  - Abstract title
  - All authors' and co-authors' names and affiliations
  - Contact information (name, designation, email address, postal address, and phone and fax numbers) of corresponding author(s)
  - Type of presentation (oral or poster presentation)
  - Theme or sub-topic area
  - Summary of the project/case study (less than 150 words)
  - Detailed information with sub-sections on introduction, methods, results, and conclusions (all to be contained within two A4-sized pages)
- Please log-in to the online abstract submission portal via the Water Convention 2014 website, [www.siww.com.sg/water-convention](http://www.siww.com.sg/water-convention)
- Selection criteria includes high technical quality, relevance to the themes/topics, and depth of information content.  
**Abstracts that are deemed commercial in nature will not be accepted.**
- Authors are strongly encouraged to submit full papers once abstracts have been accepted. All selected abstracts and full papers will be included in the Water Convention 2014 Conference Proceedings. Full papers will be further reviewed and considered for publication in IWA's Journal of Water Practice & Technology.

## FURTHER INFORMATION

- Further information regarding submission of abstracts, registration for the Water Convention, and paper presentation including a template for the abstract is available at [www.siww.com.sg/water-convention](http://www.siww.com.sg/water-convention)
- The submission deadline for abstracts is **5 July 2013**. Submissions will be peer-reviewed and accepted authors will be notified by **2 December 2013**.

## REGISTRATION FEES

All accepted oral and poster presenters are required to register and bear conference registration fees for the Water Convention independently. The presentations will be listed in the Convention programme upon receipt of the registration fees.

## IMPORTANT DATES

Submission deadline for abstracts	5 July 2013
Notification of acceptance	2 December 2013
Deadline for authors' acceptance	6 January 2014
Call for registration	January 2014
Deadline for authors' registration	21 March 2014
Submission deadline for full papers and poster softcopies	21 March 2014
SIWW Water Convention 2014	1–5 June 2014

## CONTACT INFORMATION

Please direct enquiries to the Water Convention secretariat at [waterconvention@siww.com.sg](mailto:waterconvention@siww.com.sg)  
Details are also available at [www.siww.com.sg/water-convention](http://www.siww.com.sg/water-convention)



**International  
Water Association**

## INTERNATIONAL WATER ASSOCIATION (IWA)

The International Water Association is a global reference point and network of water professionals spanning research and practice, and covering all facets of the water cycle. Through its network of members, partners and experts in research, practice, regulation, industry, consulting and manufacturing, IWA is in a better position than any other organisation to create innovative, pragmatic and sustainable solutions to current and future global water challenges.

The strength of IWA lies in the professional and geographic diversity of its members. This global mosaic of national, corporate and individual member communities allows multilevel collaboration, generating knowledge and expertise exchange on all aspects of the science, research, practice and management of water.



## PUB, SINGAPORE'S NATIONAL WATER AGENCY

PUB is a statutory board under the Ministry of the Environment and Water Resources. It is the national water agency that manages Singapore's water supply, water catchment and used water in an integrated way. For more information, please visit [www.pub.gov.sg](http://www.pub.gov.sg).

### ABOUT PUB'S TAGLINE: WATER FOR ALL: CONSERVE, VALUE, ENJOY

PUB has ensured a diversified and sustainable supply of water for Singapore with the Four National Taps (local catchment water, imported water, NEWater, desalinated water).

To provide water for all, PUB calls on all to play our part to conserve water, keep our water catchments and waterways clean and build a relationship with water so we can enjoy our water resources. If we all play our part, we can have enough water for all our needs – for industry, for living, for life.

### LEE KUAN YEW WATER PRIZE SPONSOR:



### FOUNDING SPONSORS:



### STRATEGIC PARTNERS:



### ORGANISED BY:

Singapore International Water Week Pte Ltd, a company set up by Singapore's Ministry of the Environment and Water Resources and PUB, Singapore's national water agency.



### EVENT ORGANISER:

an **experia** event

### ENDORSED BY:



### HELD IN:





**For enquiries on Water Convention,  
please contact:**  
Water Convention Secretariat  
Email: [waterconvention@siww.com.sg](mailto:waterconvention@siww.com.sg)

**For general enquiries on SIWW,  
please contact:**  
Mr Maurice Neo  
Managing Director  
Tel: +65 6731 3191  
Email: [info@siww.com.sg](mailto:info@siww.com.sg)

**For exhibition sales and sponsorship  
opportunities, please contact:**  
Ms Ruth Cheah  
Sales Manager  
Tel: +65 9736 6864  
Email: [ruthcheah@siww.com.sg](mailto:ruthcheah@siww.com.sg)

Information accurate as of January 2013

