Singapore International Water Week

SINGAPORE INTERNATIONAL WATER WEEK 2026

THE GLOBAL PLATFORM TO SHARE AND CO-CREATE INNOVATIVE WATER, COASTAL AND FLOOD SOLUTIONS

15 - 19 June 2026

Sands Expo & Convention Centre
Marina Bay Sands, Singapore

SIWW2026 WATER CONVENTION CALL FOR PAPERS

Water Convention is jointly organised by :

IWA the international water association

PUB SINGAPORE'S NATIONAL WATER AGENCY

www.siww.com.sg

MESSAGE FROM THE CO-CHAIRS OF THE SIWW2026 WATER CONVENTION PROGRAMME COMMITTEE

Bernard Koh
Assistant Chief Executive (Future Systems & Technology)
PUB, Singapore's National Water Agency (Singapore)

Darryl Day
Principal and Director
Wongulla Waters Pty Ltd (Australia)

Singapore International Water Week (SIWW) 2026 returns from 15–19 June 2026 at the Sands Expo and Convention Centre, Singapore, reaffirming its position as a premier global platform for urban water innovation and solutions. As one of the world's leading water events, SIWW2026 will once again bring together global leaders, policymakers, experts, and practitioners from utilities, government agencies, cities, industries, and academia to exchange insights and drive meaningful action toward solving today's most pressing urban water challenges.

A cornerstone event of SIWW - the Water Convention, co-organised by PUB, Singapore's National Water Agency, and the International Water Association (IWA), provides a dynamic platform for water professionals to share cutting-edge research, breakthrough technologies, and best practices. The 2024 edition drew over 2,200 delegates from 71 countries and regions, featuring more than 350 oral and poster presentations across six Hot Issues Workshops and 47 technical sessions, highlighting the event's growing impact on the global water community.

Building on this success, the SIWW2026 Water Convention will address the full spectrum of water challenges - from resilient networks and advanced treatment to efficient reuse, climate resilience, flood protection, and coastal defense, while safeguarding water quality, public health, and driving resource circularity for a sustainable future.

We hope the insights that will be shared at SIWW2026 Water Convention will inspire new collaborations, spark innovative solutions, and contribute to a more sustainable global water future. We invite you to submit your abstracts and share your expertise with an international audience of water professionals.

We look forward to meeting you in Singapore at the SIWW2026 Water Convention.

ABOUT THE CO-ORGANISERS

INTERNATIONAL WATER ASSOCIATION (IWA)

The International Water Association is the organisation that brings together science and practice of water management in order to reach a world in which water is wisely managed to satisfy the needs of human activities and ecosystems in an equitable and sustainable way.

The IWA is a global knowledge hub and international network for water professionals and anyone concerned about the future of water. We bring together know-how and expertise to instigate ground-breaking solutions.

PUB, SINGAPORE'S NATIONAL WATER AGENCY

PUB is a statutory board under the Ministry of Sustainability and the Environment (MSE). It is the national water agency, which manages Singapore's water supply, water catchment, and used water in an integrated way. From April 2020, PUB also took on the responsibility of protecting Singapore's coastline from sea-level rise as the national coastal protection agency.

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). PUB leads and coordinates whole-of-government efforts to protect Singapore from the threat of rising seas and the holistic management of inland and coastal flood risks.

PUB calls on everyone to play a part in conserving water, in keeping our waterways clean, and in caring for Singapore's precious water resources. If we all do our little bit, there will be enough water for all our needs – for commerce and industry, for living, for life.

SIWW2026 WATER CONVENTION PROGRAMME COMMITTEE

CO-CHAIRS

Bernard Koh
Assistant Chief Executive (Future Systems & Technology)
PUB, Singapore's National Water Agency
(Singapore)

Darryl Day
Principal and Director
Wongulla Waters Pty Ltd
(Australia)

THEME 1: WATER NETWORK

THEME LEADER

Amir Cahn
Chief Executive Officer
Smart Water Networks Forum (SWAN)
(United Kingdom)

PROGRAMME COMMITTEE MEMBERS

Albert Cho
Senior Vice President and Chief Strategy and External Affairs Officer
Xylem Inc.
(USA)

Enrique Cabrera
Professor of Fluid Mechanics
Universitat Politècnica de València (UPV)
(Spain)

Kah Cheong Lai
Senior Deputy Director
PUB, Singapore's National Water Agency
(Singapore)

Martine Louise Watson
Chief Digital & Information Officer
Urban Utilities
(Australia)

Tertius Rust
Founder and Executive Director
The Innovation Consulting Company
(South Africa)

Zdravka Do Quang
Group Innovation Programs Officer
SUEZ
(France)

THEME 2: WATER TREATMENT

THEME LEADER

Jonathan Clement
Director Global Advanced Water Solutions
Ramboll
(Singapore)

PROGRAMME COMMITTEE MEMBERS

Bob Stear
Chief Engineer
Severn Trent
(United Kingdom)

Key Wee Ong
Chief Specialist, Potable Water Treatment
PUB, Singapore's National Water Agency
(Singapore)

Michael Storey
Managing Director (Asia-Pacific)
Isle Utilities
(Australia)

Nikolay Voutchkov
Executive Director – Water Innovation Center
NEOM
(Saudi Arabia)

Min Yang
Deputy Director
Research Center for Eco-Environmental Sciences (RCEES)
(China)

THEME 3: USED WATER MANAGEMENT, REUSE AND INDUSTRIAL WATER SOLUTIONS

THEME LEADER

Kartik Chandran
Professor of Earth and Environmental Engineering
Columbia University (USA)

PROGRAMME COMMITTEE MEMBERS

Andrew Robert Shaw
Associate Vice President and Global Practice & Technology Leader
Black & Veatch
(USA)

Govind Alagappan
President
Gradiant
(Singapore)

Guihe Tao
Chief Specialist, Used Water Treatment
PUB, Singapore's National Water Agency
(Singapore)

Jay Bhagwan
Executive Manager, Water Use and Waste Management
Water Research Commission
(South Africa)

Mads Leth
Chief Executive Officer
VCS Denmark
(Denmark)

Mark van Loosdrecht
Professor
Delft University of Technology
(The Netherlands)

Norhayati binti Abdullah
Associate Professor
Tokyo City University
(Malaysia)

Susan Moisio
Senior Vice President & Global Water Market Director
Jacobs
(USA)

SIWW2026 WATER CONVENTION PROGRAMME COMMITTEE

THEME 4: CLIMATE RESILIENT CITIES, FLOOD MANAGEMENT AND COASTAL PROTECTION

THEME LEADER

Mark Fletcher
Director
Arup
(United Kingdom)

PROGRAMME COMMITTEE MEMBERS

Chai Teck Ho
Deputy Director, Coastal Protection Department
PUB, Singapore's National Water Agency
(Singapore)

Pritha Hariram
Head of Water Infrastructure and Climate Adaptation
Ramboll
(Singapore)

Scott Dunn
Chief Strategy Officer, Asia
AECOM
(Singapore)

Thomas Pang
Senior Assistant Director, Catchment & Waterways Department
PUB, Singapore's National Water Agency
(Singapore)

Tomoya Shibayama
Institute Professor at Research and Development Initiative
Chuo University
(Japan)

Tony Wong
Distinguished Professor of Sustainable Development
Monash University
(Australia)

THEME 5: WATER QUALITY AND ONE HEALTH

THEME LEADER

Robert Bos
Independent Consultant
Public Health, Environment, Water and Sanitation
(Switzerland)

PROGRAMME COMMITTEE MEMBERS

Chee Meng Pang
Director, Water Quality Department
PUB, Singapore's National Water Agency
(Singapore)

David Cunliffe
Principal Water Quality Adviser
SA Health
(Australia)

Fiona Waller
Independent Consultant
(United Kingdom)

Regina Sommer
Head of Unit Water Hygiene and Co-Head ICC Water & Health
MedUni Vienna
(Austria)

Ruchika Shiva
Director - South Asia Regional Programme
IRC International Water and Sanitation Centre (IRCWASH)
(India)

THEME 6: NEXUS AND RESOURCE CIRCULARITY

THEME LEADER

Dragan Savic
Global Advisor Digital Sciences
KWR Water Research Institute
(The Netherlands)

PROGRAMME COMMITTEE MEMBERS

Adam Lovell
Executive Director
Water Services Association of Australia (WSSA)
(Australia)

Despo Fatta-Kassinos
Professor
University of Cyprus
(Cyprus)

Gurdev Singh
Chief Engineering & Technology Officer
PUB, Singapore's National Water Agency
(Singapore)

Heather Smith
Senior Lecturer in Water Governance
Cranfield University
(United Kingdom)

Lucy Thomas
RSK Group Board Director, Chief Scientist and Regional Operations, Africa
RSK Group
(United Kingdom)

Wilbert Menkveld
Chief Technology Officer
Nijhuis Saur Industries
(The Netherlands)

THEMES FOR SIWW2026 WATER CONVENTION

The Water Convention is a platform for gathering professionals and technology providers from around the world to share their knowledge, practical experiences, and novel technologies to address the current and emerging water challenges under the following themes:

1. Water Network
2. Water Treatment
3. Used Water Management, Reuse and Industrial Water Solutions
4. Climate Resilient Cities, Flood Management and Coastal Protection
5. Water Quality and One Health
6. Nexus and Resource Circularity

The Water Convention technical programme focuses on spurring knowledge sharing, fruitful discussions and engaging debates among water leaders and practitioners through high quality presentations on technological innovations, management strategies and best practices.

THEME 1: WATER NETWORK

The water industry is undergoing a transformative evolution as utilities embrace innovative approaches to address growing climate, data management, workforce, and customer service challenges. AI-driven solutions can provide predictive insights while workforce development has taken center stage, with continuity planning and new business models fostering innovation and digital transformation. These advancements enable more efficient operations and customer engagement; however, successful implementation requires balancing technological advancement with human-centered approaches that ensure solutions are embraced by both operators and consumers.

This theme explores the latest innovations, best practices, and case studies in creating sustainable water networks that address both technical and social dimensions of modern water management.

1.1 Strategic Planning and Climate Resilience

1.1.1 Multi-hazard scenario planning for droughts, floods, and extreme weather events
1.1.2 Incorporating alternative water sources into system design (e.g. water reuse)
1.1.3 Equitable water network planning and management (e.g. for rural systems, developing countries, and smaller communities)
1.1.4 Rapid emergency response systems
1.1.5 Real-time environmental pollution monitoring

1.2 Data Management and Cybersecurity

1.2.1 Data quality management and integration strategies (e.g. varying data granularities and frequencies).
1.2.2 Integrating new technologies with legacy systems
1.2.3 Cloud vs. on-premise decision frameworks for data management.
1.2.4 Ensuring seamless interoperability (e.g. open protocols or agnostic platforms)
1.2.5 Promoting open data-sharing internally (across departments) and externally (customers, regulators)
1.2.6 IT/OT convergence strategies
1.2.7 Cybersecurity best practices and lessons learned

1.3 Asset Management and Operational Efficiency

1.3.1 AI-based predictive maintenance
1.3.2 Real-time water quality monitoring
1.3.3 Trenchless rehabilitation technologies for extending pipeline lifespan
1.3.4 Pipe materials innovation (e.g. corrosion-resistant pipes)
1.3.5 Leak detection innovation (e.g. pressure management, acoustic sensing)
1.3.6 Scaling smart metering (e.g. AMR to AMI or increased network coverage)
1.3.7 Digital twins for real-time operational insights
1.3.8 Autonomous water networks

1.4 Workforce Development and Digital Transformation

1.4.1 Leveraging GenAI for workforce productivity
1.4.2 Workforce continuity planning (e.g. recruitment strategies)
1.4.3 Upskilling initiatives to build data literacy (e.g. targeted training or mentorship programmes)
1.4.4 Leveraging innovative business models such as XaaS (anything-as-a-service) for risk-sharing and flexible service delivery
1.4.5 Building trust and buy-in across diverse stakeholders
1.4.6 Developing change management frameworks
1.4.7 Communicating failure constructively to support iterative improvement
1.4.8 Partnering with startups, academia, and utilities to drive innovation

1.5 Customer Engagement and Conservation

1.5.1 Predictive tools for demand forecasting
1.5.2 Demonstrating the financial value of smart metering (e.g. cost benefit analysis)
1.5.3 Behavioural science and digital engagement to promote water conservation
1.5.4 Transparency tools, apps, and interactive dashboards for user education
1.5.5 Personalised conservation programmes based on data analytics and usage patterns

THEME 2: WATER TREATMENT

Cities worldwide face the challenge of limited freshwater supply, prompting them to diversify their water sources to become more resilient. As treatment technologies continue to advance, there is an increasing focus on making the process more sustainable by reducing energy requirements, exploring beneficial reuse of brine, and harvesting energy from waste streams. Additionally, these technologies have to be adaptable to the future impacts of climate change, for instance by designing treatment processes that can cope with changing water quality. While ensuring a sufficient and sustainable water supply is critical, it is equally important to ensure that the water supplied is of the highest possible quality. To this end, water utilities are applying advanced technologies that can effectively treat and remove contaminants of emerging concern and specific groups of contaminants that are resistant to conventional processes. Water utilities are also exploring the use of innovative sensors and digital solutions to support them in plant operations, maintenance, and optimisation.

2.1 Water Treatment Technologies and Innovations

Focus: Core technologies for treating water and removing contaminants.

2.1.1 Characterisation, impact and removal of natural organic matter and heavy metals in drinking water
2.1.2 Treatment of emerging pollutants
2.1.3 Waste minimisation and management in water treatment
2.1.4 Advanced oxidation processes
2.1.5 Advances in membrane technologies and applications
2.1.6 Pre- and post-treatment and other process innovation
2.1.7 Process innovations by membrane technology
2.1.8 Advancement in real-time water quality monitoring of source and product water
2.1.9 Process design innovations for mitigation of source water scarcity and quality deterioration

2.2 Desalination and Brine Management

Focus: Cutting-edge desalination methods, energy optimization, and brine reuse.

2.2.1 Breaking desalination cost and energy barriers
2.2.2 One Water – joint desalination and reuse
2.2.3 Brine concentration and beneficial reuse
2.2.4 Advances in brackish groundwater treatment
2.2.5 Industrial wastewater desalination
2.2.6 Case studies for low energy desalination
2.2.7 Innovative technologies for membrane brine concentration
2.2.8 Zero and near zero liquid brine discharge systems
2.2.9 Extraction of valuable minerals from brackish and seawater brines
2.2.10 Case studies for brine concentration and mining

2.3 Water Reuse and Resource Recovery

Focus: Potable and non-potable reuse, ecological systems, and sustainability.

2.3.1 Innovations in direct and indirect potable reuse
2.3.2 Ecological water reuse
2.3.3 Non-potable urban reuse
2.3.4 Planning and implementation of water reuse projects
2.3.5 Process intensification and improvement by membrane technology
2.3.6 Efficient groundwater management (e.g. artificial aquifer recharge and well)
2.3.7 Sustainable water reuse

2.4 Smart and Digital Water Systems

Focus: Digital transformation of water systems using AI, IoT, and XR tech.

2.4.1 Predictive and corrective automated process operation and optimisation
2.4.2 Asset management with smart technologies
2.4.3 Artificial intelligence systems for remote monitoring and control
2.4.4 Application of virtual/augmented reality systems in plant operations and training

2.5 Sustainability, Climate Resilience and Decarbonisation

Focus: Climate adaptation, emissions reduction, and future-proofing systems.

2.5.1 Water treatment technologies for achieving net-zero CO_2 emission
2.5.2 Adaptation of water treatment systems to climate changes in the future
2.5.3 Drinking water production from unconventional water sources (e.g. humidity in the air)

THEME 3: USED WATER MANAGEMENT, REUSE AND INDUSTRIAL WATER SOLUTIONS

A. Treatment
B. Reuse
C. Industrial Applications

In our pursuit of a sustainable future, the perception of wastewater has changed from being something unwanted to a beneficial resource. This shift drives the desire to extract as much water, energy, and valuable materials from wastewater as possible. A growing number of technologies have been developed to enhance energy generation during treatment and reuse of both domestic and industrial wastewater (or alternatively, 'used water') streams. Meanwhile, to mitigate climate change, attempts are made to reduce the overall carbon footprint of wastewater management including nitrous oxide and methane emissions. There is an upward trend in recovering and reusing material resources from waste streams, including for industrial and commercial applications. For the remaining wastewater effluent, a high quality is targeted for reuse applications, potentially in part through the use of membrane technologies and processes. Besides looking into new innovations, efforts are also placed in improving the efficiencies of existing processes and explore linkages between domestic and industrial applications to enhance overall system sustainability. This theme welcomes abstracts examining best practices and innovative technologies for sustainable and economically viable centralised or decentralised treatment, reuse and management of domestic and industrial wastewater and the resources embedded therein.

D. Conveyance

Sewers are vital for the sanitary conveyance of wastewater to treatment facilities. To ensure that sewers can carry out their function well, proper operation and maintenance are necessary. Utilities are taking a more proactive approach in these areas with the help of digitalisation and intelligent technologies. In sewer operation, analytics and management tools are employed with real-time sensors and meters for detecting and predicting blockages, inflows, and infiltrations. It is equally important to examine the quality of the wastewater discharged into sewers as it affects downstream treatment processes. In maintenance, advanced inspection equipment is deployed for sewer inspection, cleaning, and rehabilitation. The necessity for cutting-edge technologies becomes more apparent as large sewers are laid more deeply in the increasingly urbanised cities. Such deep tunnel sewage systems require innovative solutions for monitoring the tunnel's structural integrity and conveyance condition. Abstracts looking into novel technologies, best practices and applied research for wastewater networks in the areas below are welcomed.

3A Treatment

3A.1 Basic and Advanced Wastewater Treatment

- 3A.1.1 Treatment of emerging chemical (e.g. PFAS and microplastics) and microbial contaminants (including antimicrobial resistance)
- 3A.1.2 Membrane technologies
- 3A.1.3 Advances in nutrient removal technologies
- 3A.1.4 Advanced oxidation processes as tertiary treatment
- 3A.1.5 The use of improved primary and preliminary treatment technologies (e.g. grit and screenings) to protect downstream processes
- 3A.1.6 Sludge treatment and biosolids management
- 3A.1.7 Mitigation of Micropollutants and Emerging Contaminants, including PFAS, Microplastics, among others
- 3A.1.8 Management and treatment of sludge and biosolids
- 3A.1.9 Nature-based solutions for wastewater treatment
- 3A.1.10 Applications of Wastewater Based Epidemiology

3A.2 Process Innovations for Enhanced Wastewater Treatment

- 3A.2.1 Novel integration and combinations of processes to achieve process intensification (e.g. aerobic granular sludge and biofilm processes)
- 3A.2.2 Reducing carbon footprint (e.g. control of N2O and CH4 emissions, chemical consumption, energy balance)
- 3A.2.3 Resource-efficient treatment processes supported by the recovery of water, energy, and nutrients

3A.3 Towards Net Zero Climate-Sensitive Wastewater Treatment

- 3A.3.1 Lessons learned from extreme weather events (e.g. emergency preparedness, post-event recovery, operation reinstatement, etc.)
- 3A.3.2 Designing a climate resilient plant (e.g. climate-resilient power system, wet weather flow management)
- 3A.3.3 Next-generation green-infrastructure systems for overall system resilience

3A.4 Asset Management and Infrastructure Resilience

- 3A.4.1 Ageing infrastructure
- 3A.4.2 Efficient management and maintenance of existing and future assets
- 3A.4.3 Management of vertical assets

3A.5 Advanced Monitoring and Measurement of Wastewater Contaminants

- 3A.5.1 Real-time detection and identification of VOC/SVOC
- 3A.5.2 Omics-based monitoring tools for process operation and control
- 3A.5.3 Methodologies and monitoring of emerging compounds (e.g. PFAS, microplastics)
- 3A.5.4 Biosensors and other novel tools (e.g. biological and chemical fingerprinting) for discharge quality management
- 3A.5.5 Role of sensors in plant monitoring and operation

THEME 3: USED WATER MANAGEMENT, REUSE AND INDUSTRIAL WATER SOLUTIONS

3A.6 Applications of Advanced Process Modeling, Machine Learning, and Artificial Intelligence to Enhance Process Operations

3A.6.1 New sensing and simulation approaches and models for process monitoring and control (e.g. digital twins)

3A.6.2 Artificial intelligence, machine learning and data analytics for process optimisation

3A.6.3 Integrated control of conveyance and treatment plant

3A.6.4 Workforce engagement, retention, staff training, capacity building, current and future skills related to digital transformation

3A.6.5 Data management, governance, and cyber security

3A.7 Wastewater Treatment and Management in Developing Regions

3A.7.1 Integrated approach to enhance water reuse in Developing Regions

3A.7.2 Integration and augmentation strategies for WWTPs within existing infrastructure: relevance to developing countries

3A.7.3 Wastewater based epidemiology in Developing Regions

3A.7.4 Treating non-sewage and other complex wastewater and waste streams

3A.8 Decentralised Wastewater Treatment and Water-Efficient Sanitation Systems for Onsite Treatment and Reuse

3A.8.1 Design and innovation of non-sewered sanitation technologies

3A.8.2 Integration of decentralised wastewater treatment facility with direct and indirect potable reuse

3A.8.3 Factors affecting the design of decentralised wastewater treatment facility (e.g. adequacy of isolation from residential areas, odour control, etc.)

3B Reuse

3B.1 Innovation for Efficient Reuse and Recovery

3B.1.1 Recovery and reuse of resources (water, energy, nutrients) from used municipal wastewater

3B.1.2 Management of brines associated with water reuse

3B.1.3 User acceptance of used water

3B.1.4 Regulatory aspects of used water reuse

3C Industrial Applications

3C.1 Innovations in Management, Treatment and Reuse for Industrial Applications

3C.1.1 Domestic-industrial nexus in water supply, treatment and reuse

3C.1.2 Increasing MLD and ZLD adoption through innovation in water intensive Industrial applications

3C.1.3 Water needs for data centres and other emerging industries in the AI age

3C.1.4 Water management in the petroleum industry

3C.1.5 Water management in the water-sensitive industrial applications

3C.1.6 Implications for water management in the hydrogen economy

3D Conveyance

3D.1 Networks

3D.1.1 Integrated network modelling, understanding the overall system from the network to the receiving water

3D.1.2 Climate change impacts to the sewer network (e.g. rainfall, inflow/infiltration, sea level rise, storm surge)

3D.1.3 Prediction of climate change impacts on asset performance

3D.1.4 Construction materials, automated or mechanised processes for pipe laying

3D.1.5 Processes in sewers

3D.2 Asset Management, Renewal and Rehabilitation

3D.2.1 Next generation of condition assessment, maintenance and pipe rehabilitation technologies

3D.2.2 Innovation in shortening maintenance interventions

3D.2.3 Challenges of upgrading ageing infrastructure

3D.2.4 No-dig technology

3D.3 Operations

3D.3.1 Data analytics, digital twin, simulations and application tools for forecasting, network planning, optimisation and operations & maintenance

3D.3.2 Next generation of wastewater network management (e.g. machine learning, optimisation, automation)

3D.3.3 Future of system operations through artificial intelligence and machine learning

3D.3.4 Advanced chokage detection capabilities/strategies

3D.3.5 Point source pollution abatement strategies

3D.3.6 Non-point source pollution abatement strategies

3D.3.7 Treatment of overflow from conveyance systems

3D.4 Asset Management-Predictability, Performance and Reliability

3D.4.1 Ageing infrastructure

3D.4.2 Efficient management and maintenance of existing and future assets

3D.4.3 Management of vertical assets

3D.5 Deep Tunnel Sewerage Systems

3D.5.1 Tunnel structural integrity and condition monitoring strategies/ technologies

3D.5.2 Maintenance and access to deep tunnels

3D.5.3 Large sewer inspection and maintenance using smart technologies

THEME 4: CLIMATE RESILIENT CITIES, FLOOD MANAGEMENT AND COASTAL PROTECTION

Climate Resilient Cities

Cities comprise interconnected systems - transport, water, planning energyand more. Over time, these systems have developed and significantly altered our natural environment, especially the water cycle. Climate Change is now affecting this already-modified natural system, causing more frequent and extreme impacts through shocks (short-duration) and stresses (longer-term) events. Increasingly, we will need to deal with 'too much water' from pluvial(stormwater), fluvial(riverine), tidal/coastal and groundwater flooding in certain seasons. At the same time, we must grapple with 'too little water', such as drought and water stress in other seasons. In addition, climate driven impacts such as coastal flooding and saline intrusion are also compromising water quality. Building resilience to these complex water-related impacts therefore requires a deep understanding of the dependencies and inter-dependencies between these systems. It is therefore extremely important that cities adapt quickly in the face of changing climate and develop strategies that can operate effectively to deal with the deep uncertainties that come along with it.

Flood Management and Coast Protection

We must adapt to changing boundary conditions such as sea level rise, groundwater fluctuations or changes in river flow as well as changing rainfall intensity. To minimise the damage arising from potential floods, we need to invest in a myriad of measures and infrastructure in response to changing environmental challenges. These efforts can be supported by implementing flood warning systems, evacuation planning, and best practice guidelines, such as relocating high-value or vulnerable assets beyond the impact, enhancing resilience to properties or adopting contingency measures to reduce risk. Upstream storage and soaking up or slowing down overland flow are possible strategies to help attenuate flooding. Similarly, off-line storage, aquifer storage and recovery, water demand reduction,conservation measures and land-use changes can help preserve water resources and improve water security.

The Role of Nature

There is an increasing trend in working closely with natural processes for building resilience against climate change. The growing interest in implementing nature-based or hybrid solutions is a compelling indication that more research and understanding in the role of nature in our adaptation effort are required. When applied under the right conditions, nature-based solutions such as mangroves would be effective as coastal protection measures. It is becoming increasinlgy important to recognise and value the environmental and social benefits that nature provides as part of a holistic resilience strategy.

4.1 Decision-Making Under Deep Uncertainty

Urban climate resilience inherently involves managing unpredictable challenges as well as learning to live with uncertainties and impacts that will require a holistic view including risk management and preparedness. The topic would give us good opportunities to explore robust frameworks and innovative tools for decision-making, ensuring that our strategies can adapt to volatile conditions.

4.2 Practical experience of City Water Resilience to Shocks (Short Duration Events e.g. Pluvial Flooding) and Stresses (Incremental Events e.g. Sea Level Rise)

4.3 Flood Forecasting, Smart Monitoring, Early Warning, Flood Preparedness and Real-Time Operational Control

4.4 Role of Total Value (Social Capital, Natural Capital) in Building City Water Resilience

4.5 Prediction of Future Climate and its Influence on Coastal Vulnerability

Due to global warming and the resulting changes in local climate, the behaviors of low-pressure systems, such as typhoons in the northern Pacific, cyclones in the Indian Ocean, and hurricanes in the North Atlantic, are changing rapidly. Their intensities increase, and their routes differ from traditional ones. Therefore, storm surges and wind waves change the risks to coasts worldwide. Predicting their future influence on coastal cities is a key issue for coastal cities worldwide.

4.6 Role of Water Utilities in Building Citywide Resilience

Urban water utilities around the world are facing significant challenges:

- *Population and urbanisation are increasing, but the capacity of the planet's natural capital to provide a clean and reliable source of water for, and to assimilate the waste and pollution generated by, this growing population is declining.*
- *A changing climate is creating greater water insecurity, and culminating in greater severity and frequency of flood, drought and extreme temperature conditions.*
- *Economic constraints are limiting government, business and households' ability to pay for the investment.*

Around the world, much effort has been made to envisage the roles and functions of urban water utilities of the future. As this vision becomes clearer, so too has the size and breadth of action needed to achieve it. Transitioning to a utility of the future will see water utilities:

- *Partner with the public, private and community sectors to develop new business models that provide a broader array of solutions to a more informed community.*
- *Foster greater collaboration in developing proofs-of-concept for policy and regulatory reforms that fundamentally redefine 'business as usual'.*
- *Enhance utility customer service culture, efficiency and effectiveness.*

SIWW invites urban water utilities to showcase their strategic and implementation plans and achievements thus far in transitioning into water utilities of the future and in strengthening citywide resilience.

THEME 5: WATER QUALITY AND ONE HEALTH

Water professionals and practitioners continue to face challenges at all levels, from the impact of extreme weather events on infrastructure to a growing imbalance between water scarcity and expanding populations, and threats related to emerging pollutants, spreading anti-microbial resistance and distribution system associated pathogens such as *Legionella*. The Report of the Global Commission on the Economics of Water (October 2024) places the hydrological cycle at the centre of current thinking about the ways humanity can optimize its management of the planet's water resources and arrive at innovative solutions that address the impending water crisis. By valuing the hydrological cycle as a global common good, a new framework is created to address climate change, biodiversity loss, water quality and scarcity, and basic human needs in a One Water approach. That framework also acknowledges planetary health, human, animal and environmental health (One Health) and community health as a continuum. The associated entry points are reflected in the seven broad topic areas that follow, which make up the scope of Theme 5. Assessing and managing water quality in the planning, design and delivery of water and sanitation services and of wastewater management require ever more sophisticated methods of on-line detection, monitoring and surveillance where research results can be easily transformed into practical and cost-effective applications for evidence strengthening and regulation. Increasingly, they will have to deal with established and emerging chemical pollutants and microbial contaminants using the rapidly evolving AI opportunities.

5.1 Public Health, Environmental and Agricultural Perspectives of Antimicrobial Resistance (AMR/ARG) in Drinking Water, Wastewater, Recycled Water – Monitoring, Regulations, Recreational Water Quality, Livestock Management, Mechanisms of Gene Transfer

5.1.1 Application of genomics to water quality testing in support of innovative antimicrobial resistance diagnostics

5.1.2 Management and control of biofilms that can harbour antimicrobial resistance bacteria and act as a reservoir and incubator for AMR

5.1.3 Multidisciplinary approaches to elucidating and qualifying mechanisms of gene transfer in aquatic environments, and ranking them for epidemiological importance.

5.1.4 Water treatment strategies to minimize the transmission risks of antimicrobial resistant pathogens through drinking water

5.1.5 Strengthening the monitoring and surveillance of AMR risk factors in relation to drinking water and recreational waters, including the release of untreated/partially treated wastewater, agricultural run-off and hospital/pharmaceutical industry effluents

5.2 Expect The Unexpected: Managing Emerging Pollutants and Contaminants – Regulations, Challenges of Emerging Contaminants Due to Climate Change, Capacity, Capability and Jurisdiction of Utilities To Respond, Water Operator Partnerships

5.2.1 Trends in the detection, standard setting and elimination of Per- and polyfluoroalkyl substances (PFAS) including trifluoroacetic acid, and progress in the evidence base supporting their further incorporation into the Stockholm Convention on Persistent Organic Pollutants

5.2.2 Micro- and nano-plastics in drinking water: their prevalence and their health impact

5.2.3 Endocrine disruptors: emerging information and evidence about their impact

5.2.4 Changes in distribution patterns of microbial pathogens in water and wastewater resulting from global climate change

5.2.5 The role of Water Operator Partnerships in tackling challenges of emerging chemical pollutants and microbial contaminants

5.2.6 Guidance on risk assessment and management in drinking water supplies in the absence of robust epidemiological and toxicological information

5.3 Impact of Climate Change and Extreme Weather Conditions on Source Water Quality, Including Risk Assessments and Adaptation and Resilience Measures

5.3.1 Lessons learned from recent research on climate-relevant mitigation and adaptation actions in the management of source water and its contribution to optimizing operations of drinking water, wastewater, and sanitation service providers

5.3.2 Impacts of extreme weather events (e.g. excessive rainfall and floods, lasting droughts and water scarcity, heat waves, drought-associated wildfires) on source water quality and quantity, and how this affects human, animal and ecosystem health

5.3.3 Mitigation and adaptation as part of water management in urban and rural settings (e.g. sponge cities, renovation of ageing urban WASH infrastructure, livestock waste management, borehole planning and decommissioning) as part of a One Health approach

5.3.4 Building resilience into drinking water, wastewater management and sanitation systems in the wake of major climate-related catastrophic events

5.3.5 Engaging communities in operating and maintaining small scale drinking water and sanitation systems in the context of climate change

5.3.6 New indicators designed to optimize support to the management of drinking water and sanitation services in response to climate change

5.4 From The Big to The Small Hydrological Cycle - Innovative Technologies and Solutions for Monitoring and Treatment Of Wastewater for Agricultural, Aquacultural and Potable Re-Use, Cost-Effective and Mobile Disinfection Systems

5.4.1 Cutting-edge technologies for progress in the quest for potable re-use

5.4.2 Monitoring and treatment of wastewater for safe use in agricultural and aquacultural production systems

5.4.3 The latest science on viral faecal indicators (e.g. somatic coliphages) and opportunities and challenges for their wider application

5.4.4 Innovation and experiences in automated water quality laboratory analytics

5.4.5 Cost-effective options for water dis-infection including the deployment of mobile dis-infection units

5.4.5 Status and trends of different risk reduction methods in the hydrological cycle at all levels, and their energy dimensions

5.5 Drinking Water Supply and Sanitation Services for People On The Move - Provision of Such Services for Small Migrant Populations or for Long-Term Refugee Conditions In An Increasingly Unstable World

5.5.1 Leaving no-one behind: how to reach out to migrant populations, nomadic communities and seasonal labourers to provide safely managed water and sanitation services

5.5.2 Risk reduction approaches in WASH service provision models for migrant populations

5.5.3 Criteria for the selection of the best option from different service provision models for migrating communities for short, medium and long time horizons

5.5.4 Research needs for the early detection, monitoring and surveillance of water-related health problems in migrant communities

5.6 Intersectoral Action and Institutional Arrangements to Support The One Water – One Health Integration – Integrated Policy, Strategy, Legal and Regulatory Efforts at Regional, National, Local and Community Levels

5.6.1 Governance models ensuring essential intersectoral planning and action in drinking water, wastewater and sanitation management in support of a One-Water – One Health approach

5.6.2 Opportunities and obstacles to a One Water-One Health approach : stories of success and failure

5.6.3 Water and sanitation regulation as a driver of intersectoral communication and collaboration

5.6.4 Lessons learned from the institutionalization of drinking water and sanitation regulation at the national and regional levels

5.6.5 Emerging technologies for water quality management based on multidisciplinary research

5.6.6 Development and deployment of decision-making tools for the safe management of recreational waters (e.g. microbial source tracking, genomic sequencing, catchment management, land use patterns)

5.7 SDGs Post-2030 – Ensuring Safe and Clean Drinking Water and Sanitation Services for Rural and Remote Communities, Including Community Engagement and Participation As Well As Communication Efforts in Monitoring and Management

5.7.1 What is needed to further raise the profile of water quality for One Health in the post-2030 goals and targets?

5.7.2 Practical minimum treatment requirements and operational monitoring targets and indicators to enhance access to safe and clean drinking water for rural and remote communities

5.7.3 Experiences with the introduction of portable rapid test kits for microbial contamination as part of monitoring efforts in different settings

5.7.4 Influencing community perceptions about water quality and ways to mobilize community members towards active participation in drinking water quality monitoring and management

5.7.5 How can policies support improvements in communications between providers, regulators and communities?

THEME 6: NEXUS & RESOURCE CIRCULARITY

Advancing Circular Water Systems – From Innovation to Implementation
The water sector has made significant strides in adopting circular economy principles, moving beyond closing the water loop through advanced treatment to integrating resource recovery, decarbonization, and systemic resilience. Achieving this requires a holistic approach that bridges technology, governance, ecology, and socio-economic enablers.

This theme invites abstracts on sustainable frameworks, strategies, and case studies that address six critical pillars of circular water systems:

1. Governance, Policy, and Stakeholder Collaboration
   - Policy design, participatory planning, and multi-actor engagement to legitimize, incentivize and scale circular solutions.
2. Technology, Innovation, and Digitalization
   - Cutting-edge treatment, resource recovery, and smart water management to optimize circular loops.
3. Nature-Based Solutions and Ecological Regeneration
   - Harnessing ecosystems for water resilience and valuing natural capital in circular designs.
4. Decarbonization and Energy Efficiency
   - Integrating low-carbon technologies, carbon capture, and energy-neutrality in circular water systems.
5. Risk and Regulatory Challenges
   - Mitigating contaminants, harmonizing regulations and standards, and safeguarding public health in circular transitions.
6. Enablers: Finance, Education, and Business Models
   - Innovative financing, workforce development, and scalable business cases for circular water.

We welcome contributions that adopt systems thinking and cross-sectoral nexus approaches, highlighting synergies between water, energy, and resource sectors. Abstracts may explore technological breakthroughs, policy frameworks, ecological integration, or lessons learned from implementation—all with the shared goal of accelerating the water sector's transition to a circular economy.

6.1 Governance, Policy, and Stakeholder Engagement

These topics focus on the institutional, regulatory, and participatory aspects of circular water systems, emphasizing policy frameworks, multi-actor collaboration, and public involvement to ensure legitimacy and adoption.

6.1.1 Policy and planning for circularity, policy coherence and institutional coordination needed in the circular economy
6.1.2 Stakeholder engagement, cross-sectoral collaboration, and social acceptance
6.1.3 Public engagement, co-design, and legitimation of circular water systems
6.1.4 Product stewardship and circularity
6.1.5 Digitalisation, smart accounting and systems to understand the circular economy

6.2 Technology and Innovation for Circular Systems

These topics centre on technological advancements, data-driven management, and infrastructure integration to enable efficient resource recovery, system optimization, and real-time monitoring.

6.2.1 Technological innovation and system integration for circular water systems
6.2.2 Resource recovery, decarbonization, recycling, and optimization
6.2.3 Monitoring, data, and digitalization for circular water management
6.2.4 Circular design and systemic innovation

6.3 Nature-Based Solutions and Ecological Resilience

The two sub-topics emphasize ecological approaches to circularity, leveraging natural processes, ecosystem restoration, and accounting for natural capital to enhance sustainability and cost-effectiveness.

6.3.1 Nature-based solutions and natural capital accounting for resilient and cost-effective circular water systems
6.3.2 Regeneration of environmental assets and ecosystems

THEME 6: NEXUS & RESOURCE CIRCULARITY

6.4 Decarbonization and Energy Efficiency

This group highlights strategies to reduce carbon footprints in water systems, linking resource recovery with energy efficiency and broader decarbonization goals.

6.4.1 Carbon neutrality, energy efficiency, and decarbonizing water systems

6.4.2 Resource recovery for decarbonization

6.5 Risk and Regulatory Challenges - Threats to circularity: Emerging contaminants and regulatory challenges

This stands alone as a critical risk-focused theme, addressing contaminants and regulatory hurdles that could undermine circular water initiatives. The four sub-themes transform a single risk topic into four governance/ technical pillars, addressing (1) contaminants, (2) policy, (3) analysis, and (4) societal trust.

6.5.1 Emerging contaminant mitigation

6.5.2 Regulatory gaps and harmonization

6.5.3 Risk assessment frameworks

6.5.4 Public health safeguards

6.6 Enabling Frameworks: Finance, Education, and Business Models

These topics cover implementation drivers: economic mechanisms (finance/business models) and human capital (education/ workforce development) needed to scale circular systems. The four sub-themes distinguishes economic (1, 2) from human capital (3, 4) enablers, ensuring holistic adoption. The fifth adds case studies and business models.

6.6.1 Innovative financing mechanisms

6.6.2 Circular business models

6.6.3 Workforce development

6.6.4 Community capacity building

6.6.5 Case studies and scalable business models

ABSTRACT SUBMISSION PROCEDURES

SUBMISSION OVERVIEW

- Authors can submit abstracts for either oral or poster presentations.
- Submissions should be made online through the submission system. The author must fill in all the information requested by the submission system and attach the abstract using the provided template.
- Abstracts should be limited to three A4-sized pages including figures, tables and references, and must contain adequate information to allow a sound referee review.
- The deadline for submission of abstracts is **28 November 2025**. The abstracts will be peer reviewed for selection and the authors will be notified about the acceptance of their paper for presentation on **6 February 2026**.

SELECTION GUIDELINES

- Selection criteria include high technical quality, relevance to the themes/topics, and high information content. Abstracts which are deemed commercial in nature **will not be accepted**.
- The authors are strongly encouraged to submit the full papers once their abstracts have been accepted. Full papers will be further reviewed and considered for publication in IWA's Journal.

REGISTRATION FEES

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

IMPORTANT DATES

Submission deadline for abstracts (extended)	**28 November 2025**
Notification to authors on abstract review	**6 February 2026**
Deadline for author acceptance	**27 February 2025**
Deadline for author registration	**10 April 2026**
Submission deadline for presentation materials (poster)	**22 May 2026**
Submission deadline for presentation materials (presentation slides)	**5 June 2026**
SIWW2026 Water Convention	**15 – 19 June 2026**

CONTACT DETAILS

For any enquiries, please email the Water Convention Secretariat at: waterconvention@siww.com.sg

ADDITIONAL INFORMATION

Further details on abstract submission, SIWW registration and paper presentation can be accessed here or by scanning the QR code below:

Singapore International Water Week

ABOUT SINGAPORE INTERNATIONAL WATER WEEK

Singapore International Water Week (SIWW) is one of the world's premier platforms to share and co-create innovative water, coastal and flood solutions to meet urban water and associated climate challenges. Organised by Singapore International Water Week Pte Ltd, a subsidiary of PUB, Singapore's National Water Agency, the biennial SIWW delivers a range of flagship programmes and platforms that gathers stakeholders from governments, cities, utilities, academia, and industry to share best practices and solutions, showcase the latest technologies and harness business opportunities. The 11th Singapore International Water Week will be held from 15 to 19 June 2026.

Organised By:
Singapore International Water Week Pte Ltd, a subsidiary of PUB, Singapore's National Water Agency.

PUB SINGAPORE'S NATIONAL WATER AGENCY

STAY CONNECTED WITH US:

www.siww.com.sg @siww.com.sg @waterweeksg @siww

Version 1.0, as of April 2025