the international water association

Reliable, Resilient, Sustainable and Smart Water in the Urban Water Cycle

SUDHIR MURTHY, Senior Vice President, IWA

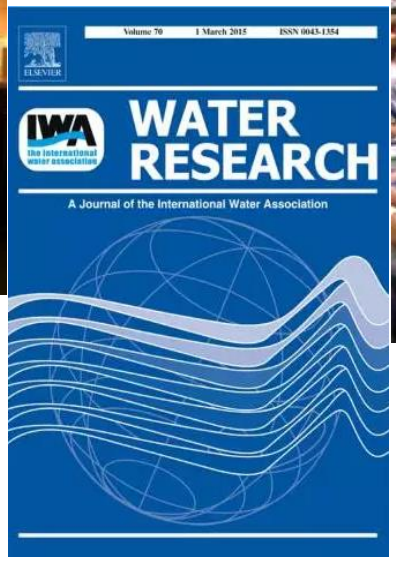
inspiring change

Global Network for Water Professionals spanning the continuum of research and practice, and covering all aspects of the water cycle

10,000 members
in 140 countries

50 Specialist Groups

14 Journals
40 books/year



Biennial Congress with
nearly 10,000 participants

Over 30 conferences/year
with over 50,000 participants

Leading edge
technologies and
best practices

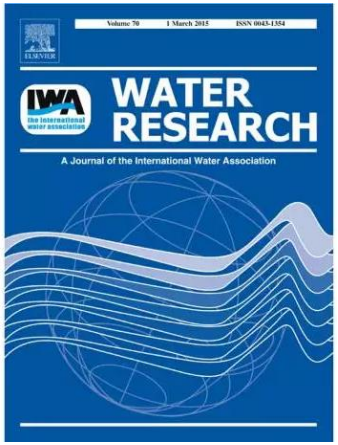
www.iwa-network.org

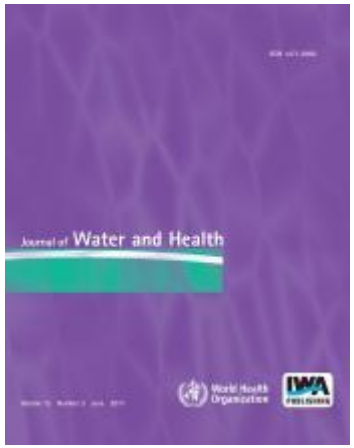
IWA SPECIALIST GROUPS

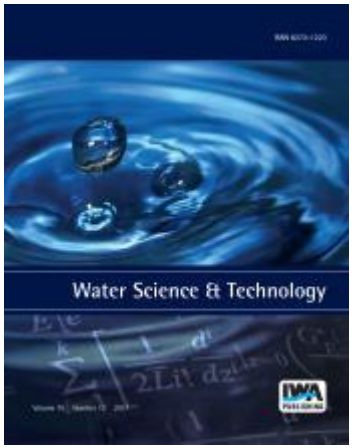
- Advanced Oxidation Process
- Anaerobic Digestion
- Biofilm
- Chemical Industry
- Diffused Pollution and Eutrophication
- Disinfection
- Efficient Urban Water Management
- Ground Water Restoration and Management
- Health Related Water Microbiology
- Hydroinformatics
- Institution Governance and Regulation
- Instrument Control and Automation
- Lake and Reservoir Management
- Membrane Technology
- Metals in Water
- Microbial Ecology and Water Engineering
- Modelling and Integrated Assessment
- Nano and Water
- Nutrient Removal and Recovery
- Odours and Volatile Emissions
- Rainwater Harvesting
- Sludge Management
- Small Water and Wastewater System
- Strategic Asset Management
- Tastes Odours and Algae Toxin
- Urban Drainage
- Water Loss
- Water Safety and Planning
- Water Reuse
- Wetland System for Pollution Control
- ……

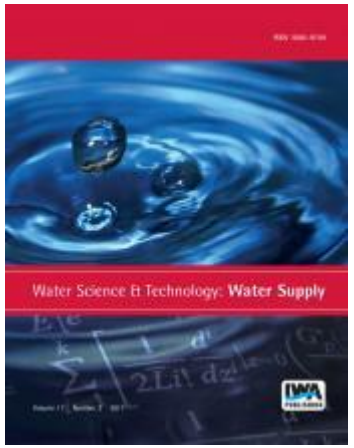
IWA PUBLISHING

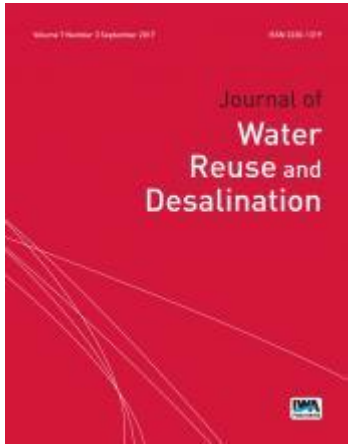
- 14 journals in IWA

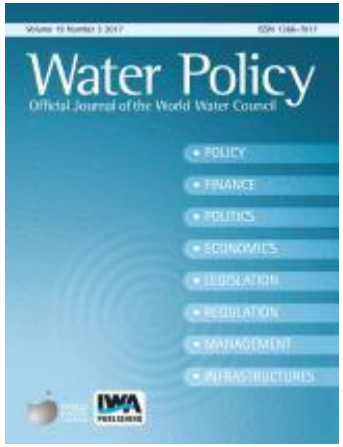








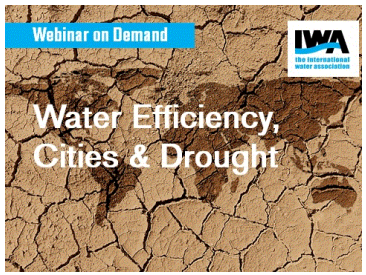




www.iwapublising.com

IWA LEARN

- **Learning Hub**
  - 238 courses and webinars
  - Courses collected from 22 countries.



IWA will help the water sector navigate through a period of rapid change

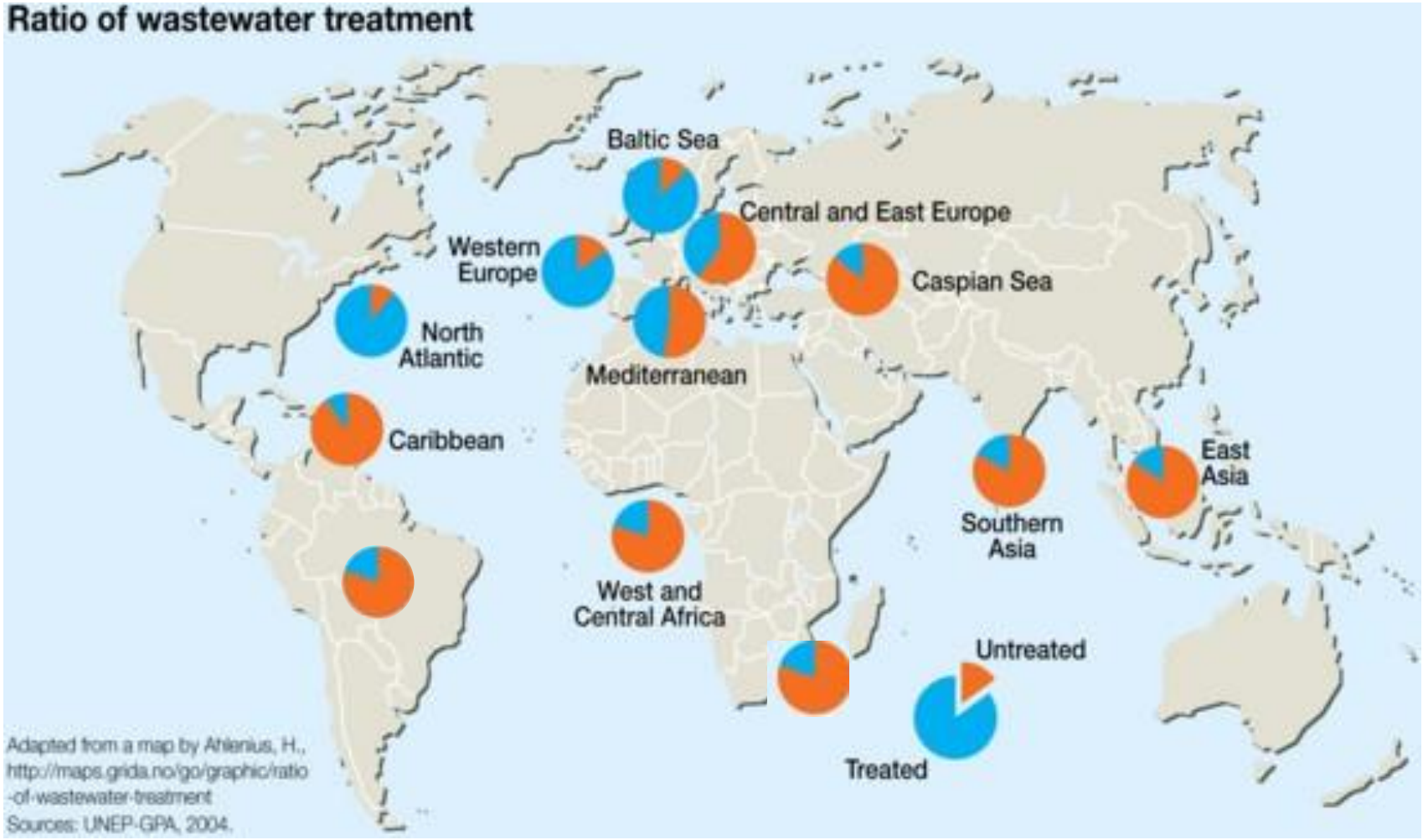
Global Change and Resilience: **adaptative approach**

Circular Economy: **Resource mindset**

Digital & Innovation: **distributed thinking**

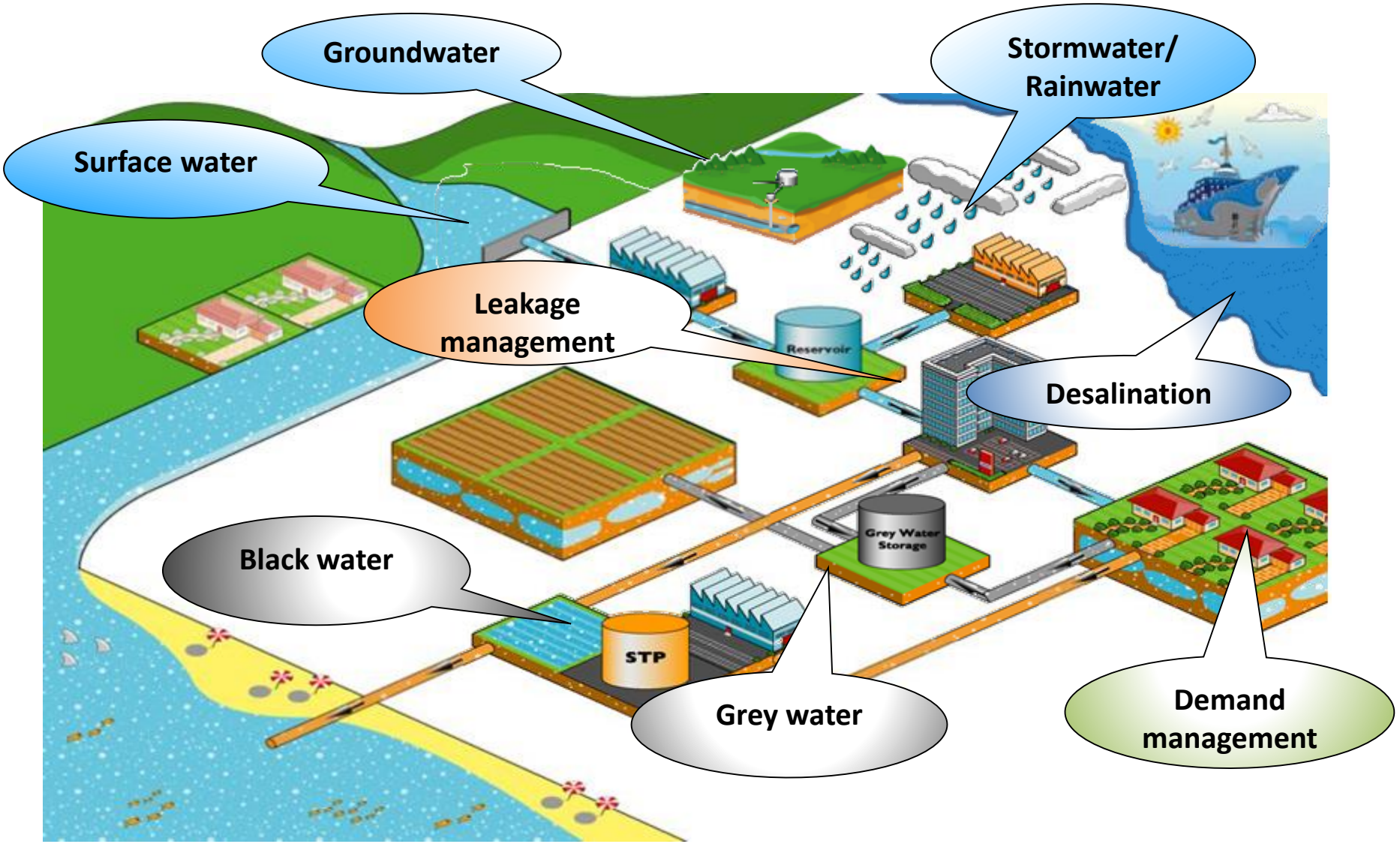
the challenges

85% of wastewater is NOT treated



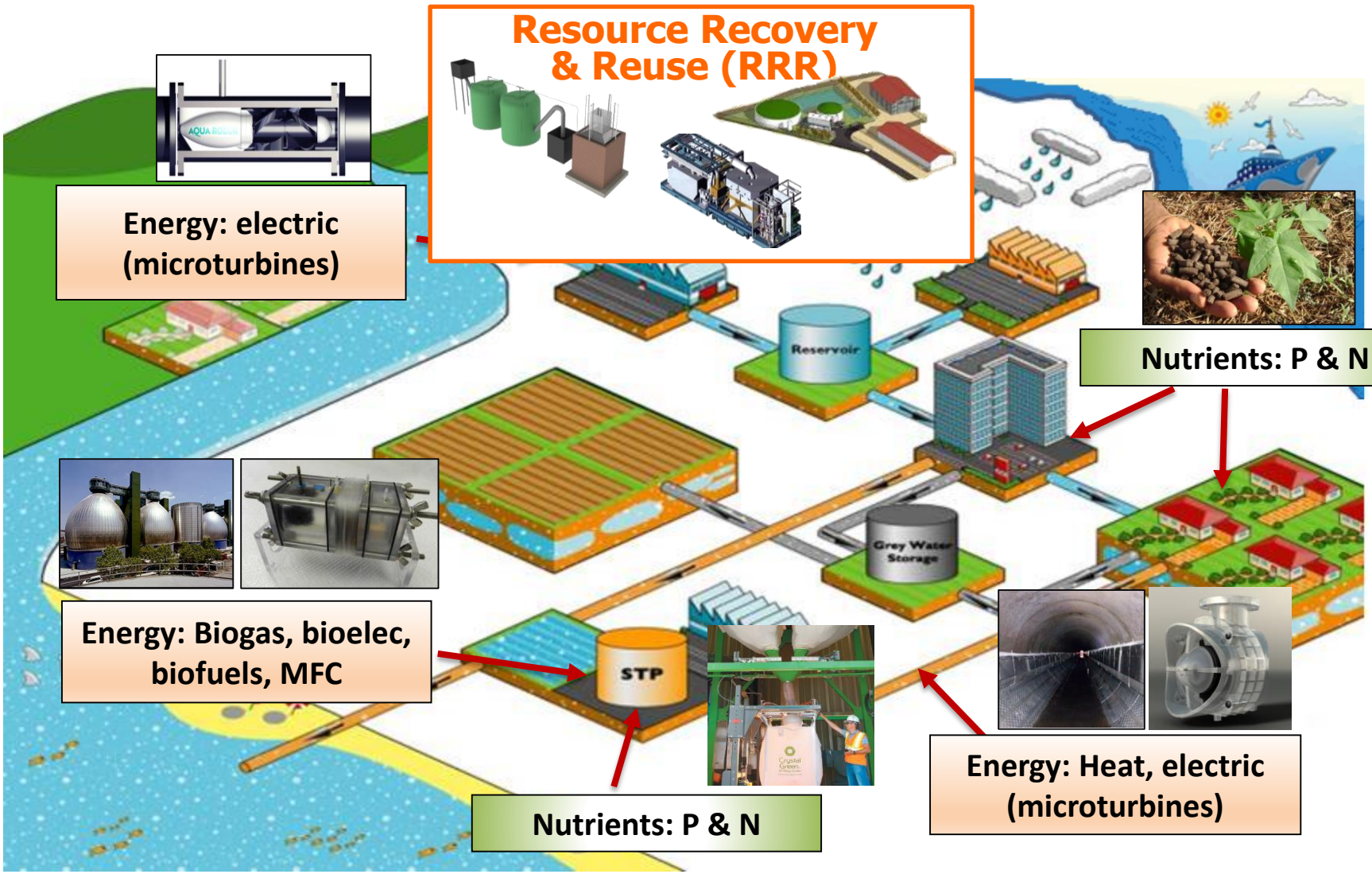
productive use of water

We need to have a systems perspective of the water cycle



waste as a resource

Changing our perspective creates opportunity to do things differently



digital water programme

Digital Water Programme – Journey so far

Digital additions to the Source (Aug 2018)

IWA World Water Congress (Sep 2018)

Digital Water Programme (Dec 2018)

Digital Water Programme Steering Committee (Feb 2019)

Digital Water whitepaper (ongoing)

Moving forward – Digital Water Programme

Activate Steering Committee (Mar 2019)

Launch whitepaper (Jun 2019)

Workshop @ Water and Development Congress (Dec 2019)

Webinar series (2019/2020)

Digital Water Summit (2019/2020)

IWA Learn

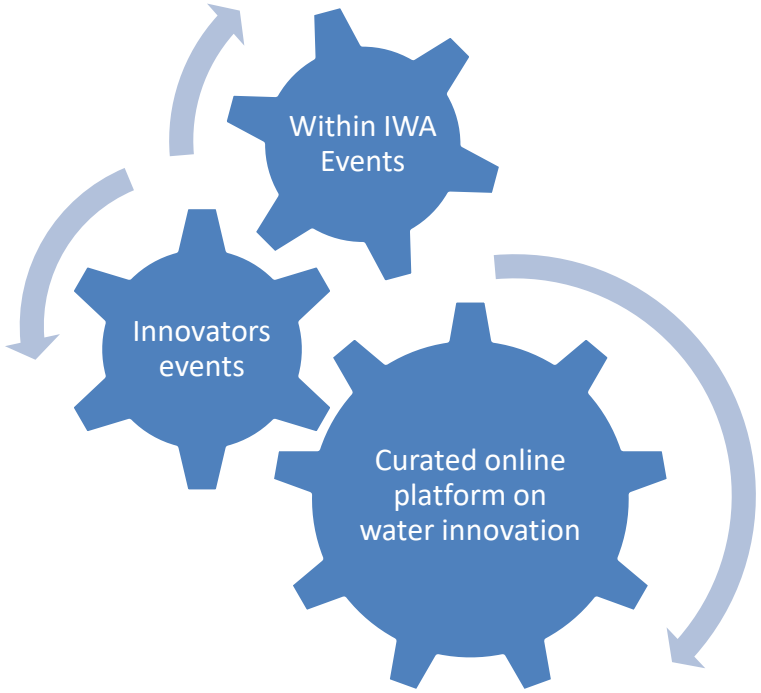
DWP Steering Committee

- **Water utilities** as users of digital water technologies,
- **Water technology**, and **Software & Communication technology companies** as digital solution providers
- **Water consultancies** as strategic partners for utilities,
- **IWA Specialist Groups** influencing or being influenced by the digital water agenda,
- **Research and network institutes** with expertise on the development of smart solutions for water utilities.

innovation programme and platform

Innovators Platform:
planned engagement pathways

- **Series of events** that integrate the traditional boxes of innovators **in 'supply'** (e.g. tech. companies/ academic/ financiers) **and demand** (e.g. water utilities)
- An **online platform** that provides curated information on innovation
- Highlighting and promoting innovations from **IWA specialist groups**
- Beyond technology – also society, financers, regulators….



Key is converting information → intelligence → insight

IWA Innovators Platform: *the journey so far*

IWA World Water Congress (Sep 2018)

Innovators Platform (Nov 2018)

Identification of events (Dec 2018)

Guidance paper – working with YWPs (ongoing)

Tokyo- 2018

IWA events

Innovators Platform

Moving forwards

Set-up steering committee (Apr 2019)

Innovator platform events (Sep-Oct 2019)

Forum @ Water and Development Congress (Dec 2019)

Innovator platform events (2020)

Online platform (2020)

Innovators Platform:
events in 2019

Event	Date	Location
Stockholm World Water Week - Co-convening seminar on Innovation with IDB	Aug. 25th- 30th 2019	Stockholm, Sweden
IWA Innovators Conference on Sustainable Wastewater Treatment and Resource Recovery: (Nutrient Recovery SG)	Sept. 22nd - 24th 2019	Shanghai, China
IWA-IDB Innovators Conference on Sustainable Use of Water: Cities, Industry and Agriculture (Sustainability in the Water Sector SG)	Sept. 29th - Oct. 2nd 2019	Guayaquil, Ecuador
IWA Water and Development Congress – 1 day Innovators Platform Event	Dec. 1st - 5th 2019	Colombo, Sri Lanka

Innovators Platform:
proposed events for 2020

Event /Topic	Date	Location
Innovation in Regulations and Policy	TBC	Glasgow, UK
Decentralized sanitation	TBC	Johannesburg, South Africa
Utilities	TBC	USA/Canada
Innovative approaches for WWT plant upgrades	TBC	Buenos Aires, Argentina
IWA World Water Congress	Oct. 18th-23rd 2020	Copenhagen, Denmark

Utility performance management and transparency

AquaRating

What is aquarating?

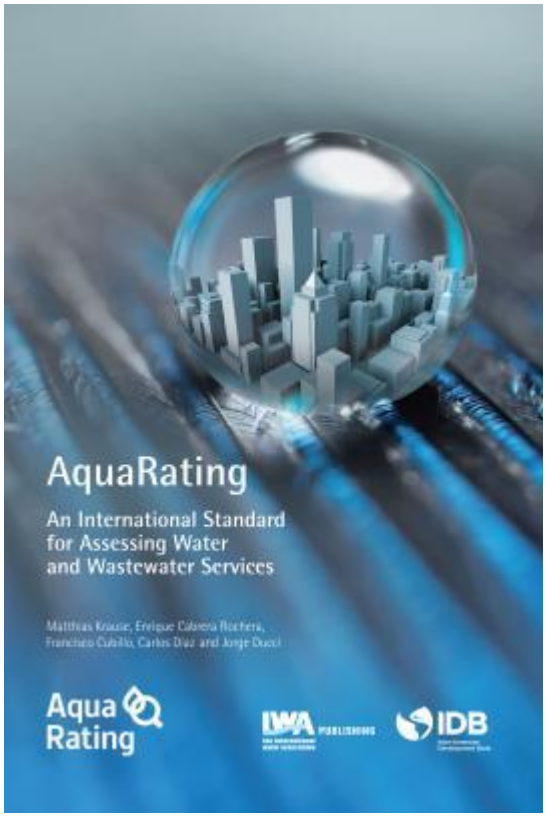
A **comprehensive** and **reliable** characterization and assessment system for urban water supply and sanitation management

Bring transparency to the water sector

Objective II Performance improvement

It is a system for improvement, as it builds a complete map of the Key aspects that characterize and determine the management of water and sanitation services

AquaRating Standard



Performance indicators

Best practices

Quality of the information

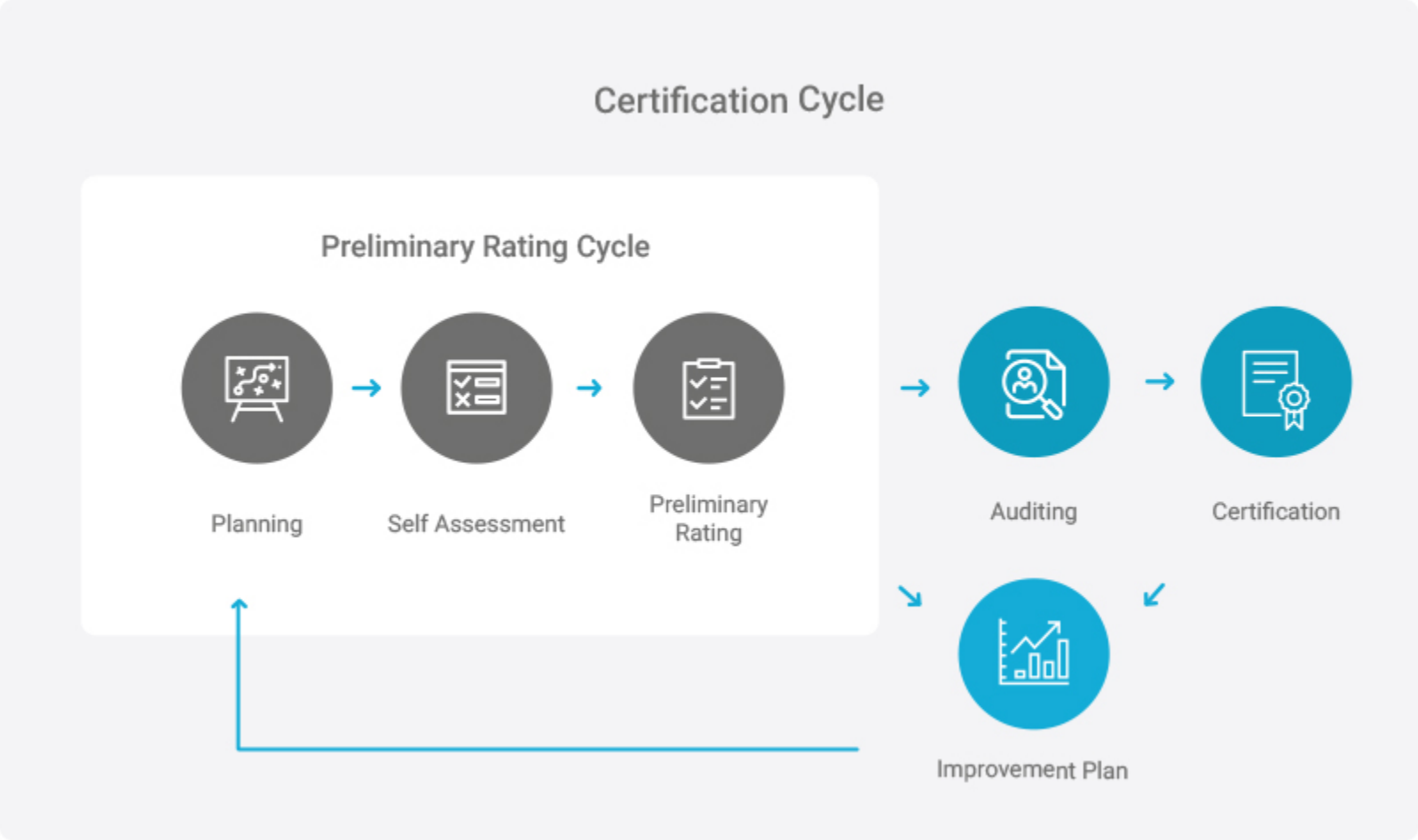
8 Evaluation Areas | 28 Sub-areas | 112 Assessment Elements | 60 Indicators

101 Variables | 52 Groups of practices | 381 Individual practices

Service Quality	Access to Service	Business Management Efficiency	Operating Efficiency
Efficiency in Investment Planning and Execution	Financial Sustainability	Environmental Sustainability	Corporate Governance

By IWA Publishing (October 2015)

AquaRating assessment process



Outcomes for utilities

- **Reputation** and **Recognition**
- **Baseline definition** and **management plan**
- **Risk management**
- **Relationships** with **stakeholders** (municipalities, regulators, etc.)
- Comprehensive **market intelligence** (*benchmarking*)

AquaRating implementation worldwide

More than 60 utilities using AquaRating

Water-Wise Cities

The IWA Principles for Water-Wise Cities

Three paradigm shifts:

- We have **limited resources**
  planetary boundaries, limited water availability in a catchment
- **Cities are growing**:
  city densification is both an opportunity for economic growth and a threat to liveability
- An **uncertain future** underlies the planning of our cities

The IWA Principles for Water-Wise Cities

4 Levels of Action

17 Principles for Water-Wise Cities

1. Regenerative Water Services

- Replenish Waterbodies and their Ecosystems
- Reduce the Amount of Water and Energy Used
- Reuse, Recover, Recycle
- Use a Systemic Approach Integrated with Other Services
- Increase the Modularity of Systems and Ensure Multiple Options

2. Water Sensitive Urban Design

- Enable Regenerative Water Services
- Design Urban Spaces to Reduce Flood Risks
- Enhance Liveability with Visible Water
- Modify and Adapt Urban Materials to Minimise Environmental Impact

3. Basin Connected Cities

- Plan to Secure Water Resources and Mitigate
- Protect the Quality of Water
- Prepare for Extreme Events

4. Water-Wise Communities

- Empowered Citizens
- Professionals Aware of Water Co-benefits
- Transdisciplinary Planning Teams
- Policy Makers Enabling Water-Wise Action
- Leaders that Engage and Engender Trust

5 Building Blocks

Vision | Governance | Knowledge & Capacity | Planning Tools | Implementation Tools

The IWA Principles for Water-Wise Cities

1. Regenerative Water Services

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- **Reduce the amount of water & energy used**
- **Reuse, recover, recycle**
- **Use a systemic approach integrated with other services**
- **Increase the modularity and ensure there are multiple options**

The IWA Principles for Water-Wise Cities

2. Water Sensitive Urban Design

- **Enable regenerative water services**
- **Design urban spaces to reduces flood risks**
- **Enhance liveability with visible water**
- **Modify & adapt urban materials to minimise environmental impact**

The IWA Principles for Water-Wise Cities

3. Basin Connected Cities

- **Plan to secure water resources and mitigate drought**
- **Protect the quality of water resources**
- **Prepare for extreme events**

The IWA Principles for Water-Wise Cities

4. Water-Wise Communities

- **Empowered Citizens**
- **Professionals aware of water co-benefits**
- **Transdisciplinary planning teams**
- **Policy makers enabling water-wise action**
- **Leaders that engage and engender trust**

The IWA Principles for Water-Wise Cities

5. Building Blocks

- Vision
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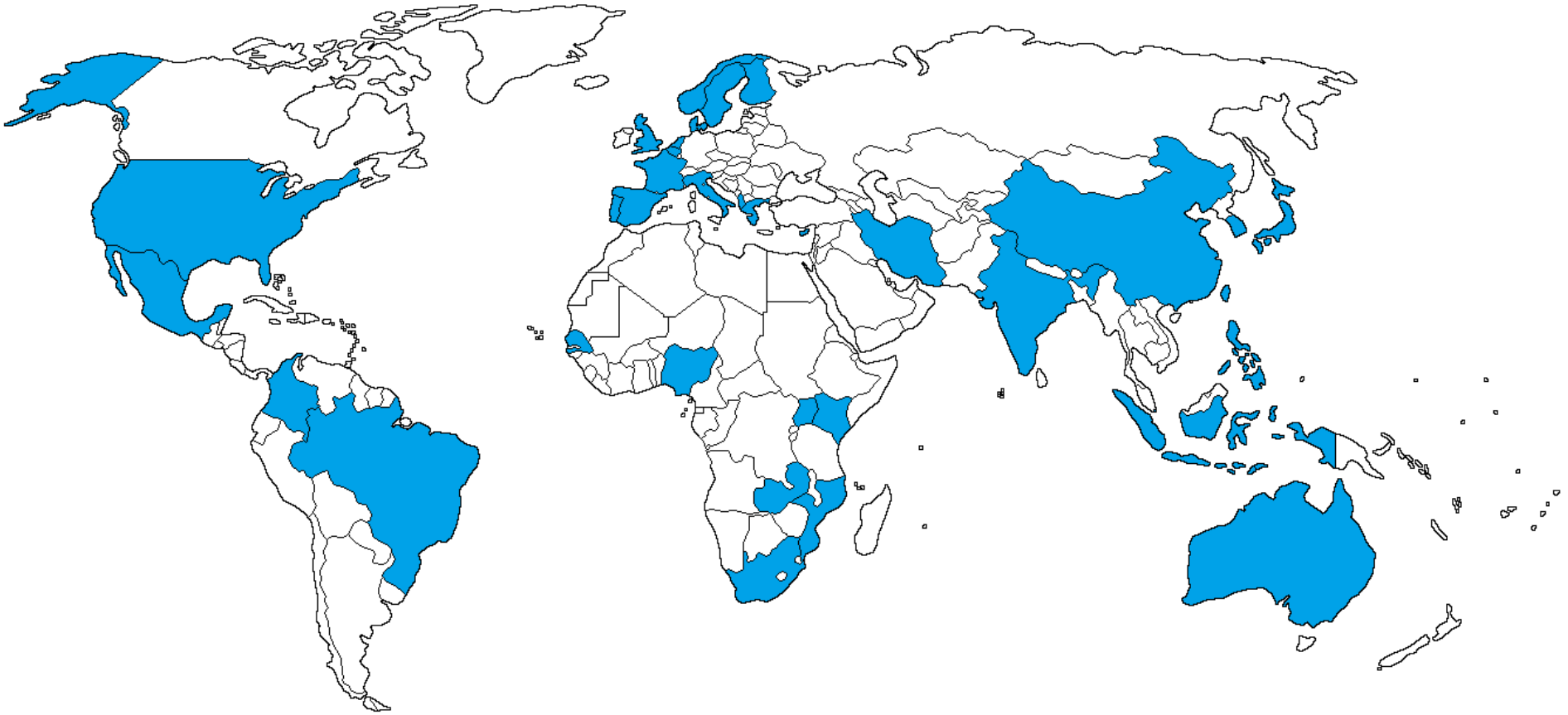
Early Endorsers



32 URBAN REGIONS HAVE ENDORSED

the international water association

Thank you!

Follow @IWAHQ on Twitter and share your urban water vision using **#WaterWiseCities**

IWA-Connect Group: Cities of the Future

inspiring change