

Theme Concept Note Template

Thematic Process, 11th World Water Forum

*This template should be completed through collaborative discussions among Topic Coordinators under the leadership of each Theme Coordinator. The first draft prepared by each Theme Coordinator is to be submitted by 14th of **February 2026**, after which it will undergo final review by the Co-Chairs of the 11th Forum Thematic Process.*

- **Theme Number:** 6
- **Theme Title:** *Value of Water*
- **Theme Coordinator:**
 - *Global Water Intelligence (Samantha Yates, Director of Special Projects)*
 - *Saudi Irrigation Organisation (Dr. Mohammad Alomair, Chief Data Officer)*
- **Topic Coordinators:**
 - *6A. Valuing water for sustainable economic growth*
 - *Ministry of Environment Water and Agriculture (KSA) (Mohamed Mokhtar, Water Expert)*
 - *6B. Advancing Efficiency in Water Management in Different Sectors*
 - *UNESCO (France) (Sarantuyaa Zandaryaa, Programme Specialist, Division of Water Sciences, Intergovernmental Hydrological Programme (IHP))*
 - *6C. Pricing Water for Sustainable Management*
 - *Watermarq Limited (UK) (Alex Money, Founder and CEO)*
 - *6D. Valuing and Footprinting Water to Drive Efficient Water Policies*
 - *National Water Research Center (Egypt) (Inas El-Gafy, Professor)*
 - *6E. Water Resources as a National Natural Capital: Towards a Paradigm Shift*
 - *UNESCO at the St. Andrew's College Mumbai (India) (Giuseppe Musumeci, Chair)*

I. Theme Overview

Rationale and Context

It has never been more urgent to define a coordinated, practical approach to valuing water. While the total economic value of water is estimated at ~\$58 trillion per year (equivalent to ~60% of global GDP), policy and pricing structures are said to undervalue water by as much as \$50 trillion (86% of the total economic value) annuallyⁱ. This stark gap between water's true value and what is accounted for in policy and pricing results in real-world consequences including operational inefficiency, ecosystem degradation, and multi-sectoral risk. In the coming years, the situation is set to become even more extreme. Future projections suggest that,

without policy change, the urban population facing water scarcity could more than double by 2050, reaching about 2.07 billion peopleⁱⁱ. The only way to address this situation is to proactively coordinate a practical approach to valuing water. This will be indispensable to managing water demand, quality, and equitable distribution, and ultimately contributing significantly to long-term global sustainability.

Yet our responsibility to value water properly does not merely have to be a desperate race against a negative outcome; we can position this as an opportunity for prosperity. In 2025, the World Bank reported that, ‘when water is properly valued and full lifecycle costs for various supply alternatives are considered, reuse stands out as both an economically sound and environmentally sustainable solution.’ⁱⁱⁱ It suggests that scaling reuse ‘could unlock up to \$340 billion in investment and increase reuse capacity eightfold by 2040’. Given that \$141 billion per year is needed to fulfill SDG^{iv} (a total of \$564 billion for the remaining four years until the SDGs expire), the additional investment capacity from scaling reuse could therefore account for as much as 60% of the water sector’s needs. It is therefore not the only solution but, when scaled, has the potential to create a tipping point to empower the water sector to meet global needs.

Looking more closely at reuse, it inherently results in triple bottom line outcomes when it comes to the value of water (Figure 1).

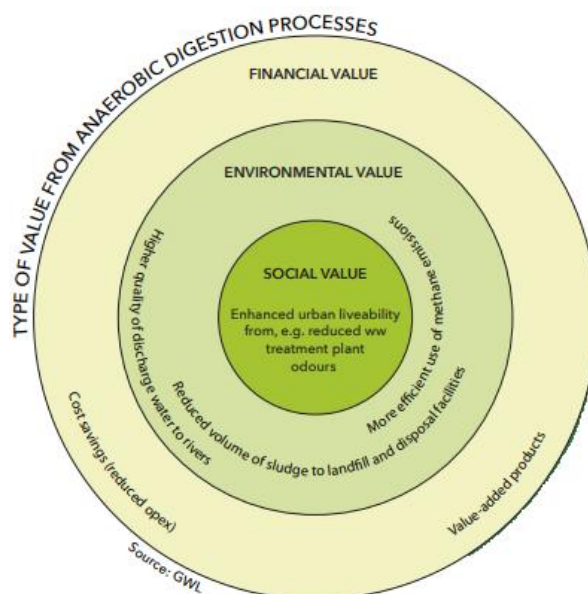


Figure 1. Added triple bottom line value from reuse^v.

This includes: (1) economic/financial value e.g. cost savings and addition revenue from beneficial reuse of treatment by-products including water, biogas, and bio-solids (Figure 2), (2) environmental value e.g. pollution reduction due to emissions capture and reduced need for landfill, and (3) social value e.g. improved access to water, better air quality, and improved wellbeing from exposure to a cleaner, more enjoyable local environment.

POSSIBLE PRODUCT LINES FROM CONTINUOUS ANAEROBIC DIGESTION		
Product	Types	Customer
Recycled Water	Potable	Residential sector (to existing customers, creating cyclical value for the utility)
	Non-potable	Commercial sector (for example, manufacturing)
		Agricultural sector (irrigation water)
		Industrial sector (for example, heavy industrial such as mining, or oil and gas)
Biogas	Carbon offset	Internal to the utility (either completely or partially self-powered water utility. Where there is excess biogas production, grid electricity is offset)
	Sale to the grid	Local electricity utility (that is, if the electricity utility is separate from the water utility)
	Other	Commercial sector (more likely when the utility's biogas is less expensive than the power from the grid)
Bio-solids	Reinforcement of building products	Commercial sector (for example, cement reinforcement, brick manufacturing, subbase for road construction. This is more likely when the local quality standards allow the sale of the bio-solids for this purpose. Bio-solids should be incinerated before this usage)
	Landfill cover	Landfill Site Owner/Operator (public/commercial) (to compress daily landfill refuse and reduce odours. Bio-solids should be incinerated and pelletised before this usage)
	Surfacing for athletics facilities	Facility Owner/Operator (public/commercial) (for example, baseball diamonds and equestrian track/arenas. Bio-solids should be incinerated before this usage)
	Compost	Internal to the utility (for example, environmental programmes including rehabilitation and enhancement of green spaces)
		Agricultural sector (for soil enhancement)
	Fertiliser	Agricultural sector (for plant growth)

Source: GWL

Figure 2. Beneficial by-products from reuse^{vi}.

Similarly, the aspects of the triple bottom line model are embedded into each of the five topics which make up Theme 6: 'Value of Water' including (6A) sustainable economic growth, (6B) advancing multi-sector water efficiency, (6C) pricing, (6D) policy, and (6E) national natural capital. Each of the Topic Coordinators with Theme 6 have submitted Concept Notes (summarised in Figure 3) which draw on the interactions between social, economic and environmental aspects demonstrating a natural partnership with the advocacy for scaled reuse.

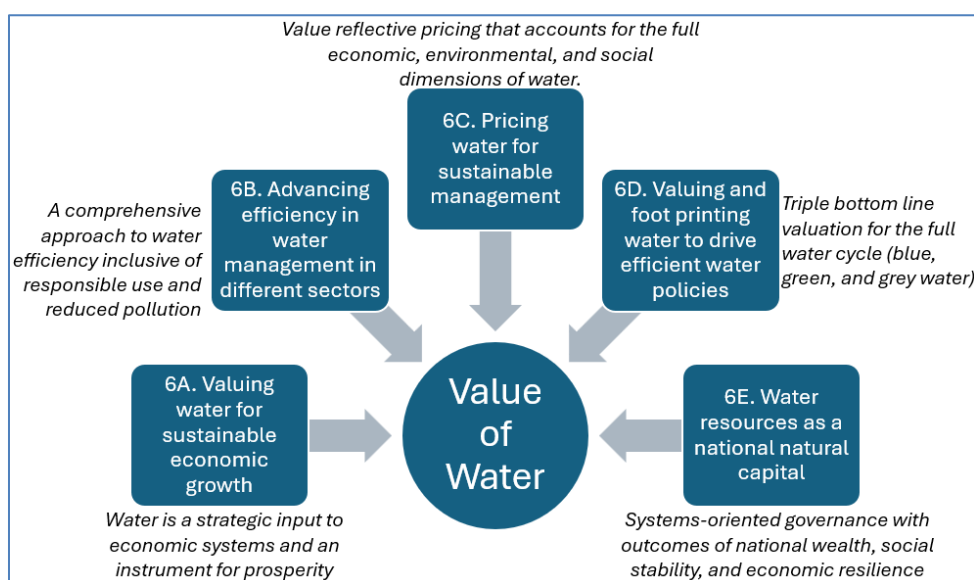


Figure 3. Summary of inputs to Theme 6 'Value of Water'.

Provide a concise introduction on the global and regional importance of this theme. Explain how the theme contributes to global water security and sustainability, also SDG 6, and other SDGs (2, 13, 14, 15, 17, etc.).

Theme 6 ‘Value of Water’ has the potential to revolutionise global and regional water security by (1) enhancing the circularity with which we treat water, (2) uniting stakeholders across parts of the water sector which are currently fragmented, (3) unlocking much needed investment for the water sector, (4) demonstrating a refreshed angle on how we value water in order to scale positive impact.

Theme 6 ‘Value of Water’ has strong connectivity across the Sustainable Development Goals (SDGs). Figure 4 demonstrates the prominence of various SDGs in the Topics within Theme 6.

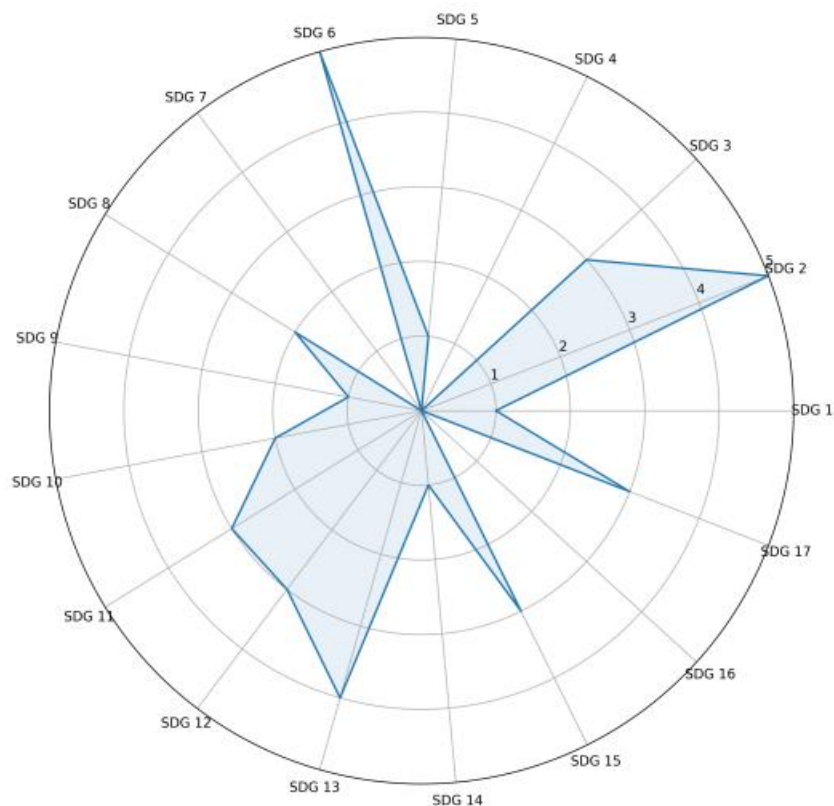


Figure 4. Weighted connectivity of SDGs to the Topics within Theme 6 ‘Value of Water’.

Indicate how the theme will integrate: climate resilience, gender and youth inclusion, digital innovation, partnerships, and financing mechanisms.

Theme 6 ‘Value of Water’ has very strong links with climate resilience, particularly since the perspective provided here emphasises the importance of scaling reuse. In other words, maximising the benefits of reuse means the capture of beneficial by-products such as bio-gas which contains methane and carbon dioxide, both of which are climate change catalysts.

The huge potential for economic prosperity from reuse (opportunities for cost savings and additional revenues) will serve to attract investment and enable creative financing models. As the World Bank says, ‘Reuse is at a tipping point: accelerating investments in reuse can develop the market, drive down costs, and spur innovation and commercial finance.’^{vii}

The opportunity for layering digital innovation into scaled reuse efforts is huge, especially in an era of increasing exploration and adoption of smart sewer technology and infrastructure.

Stakeholder partnerships will be more important than ever as reuse forces humans’ interaction with water to mimic the circularity of the natural water cycle even more. Fragmentation of operations and decision-making will no longer be an option in this heightened era of connectivity and circularity.

Gender and youth inclusion should always be integrated and this is no exception. Enhanced efficiency from reuse will enable access to more resources for all. Also, insights from next generation professionals will be integral to the innovation needed to scale all aspects of the process over time, including finance, technology, and human aspects such as communications to ensure public trust.

Objectives

Technical Objectives	Encourage water-related stakeholders to review local needs for reuse and match with technologies which may be suitable.
Policy	Direct national water policies towards greater prosperity from reuse.
Institutional	Create a culture of reuse in water utilities globally.

Key Challenges and Opportunities

Challenges	Regulation: Regulation is locationally-differentiated and therefore fragmented. Seeking alignment among regulators globally will be key to enabling reuse to be undertaken. Public trust: The ‘yuck factor’ frequently prohibits the implementation of reuse. This would have to be addressed practically (ensuring the right technology is deployed for local conditions and needs) and empathetically (via locally-appropriate communications to help communities understand the benefits and risks).
Opportunities	Transformation: The water sector could be completely and positively transformed, enabling greater water access with secondary benefits for other sectors and stakeholders. Economic development: Reuse creates three categories of saleable by-products, enabling utilities to discover a better financial outlook from cost savings and new revenue streams.

	• Social wellbeing: Reuse improves society by providing a reliable source of clean, safe, local water with environmental and economic benefits. • Environmental health and restoration: Improved air quality, river water quality, and soil health are all likely benefits depending on how sludge was previously disposed in various locations.
--	---

Linkages with Global Agendas

Wastewater treatment plants (WWTPs) are one of the major sources of greenhouse gas (GHG) emissions and contribute around 3% of global GHG emissions^{viii}. Since Theme 6 ‘Value of Water’ encourages the scaling of reuse with the capture of GHGs, it supports the Paris Agreement in its effort to limit global warming. The reason is the same in relation to the Sendai Framework when ‘disaster risk’ is interpreted as climate risk. Figure 4 (above) demonstrates the alignment with the SDGs.

Thematic Logic

The Topics are united by the triple bottom line and point towards a new paradigm for understanding the value of water. Their outcomes link neatly with those of reuse, noting that reuse will be one part of how the water sector may transform in the coming years. Figure 3 (above) shows how the five Topics within Theme 6 ‘Value of Water’ are conceptually connected and together form a coherent thematic direction. Figure 5 below demonstrates this further in terms of shared and symbiotic outcomes.

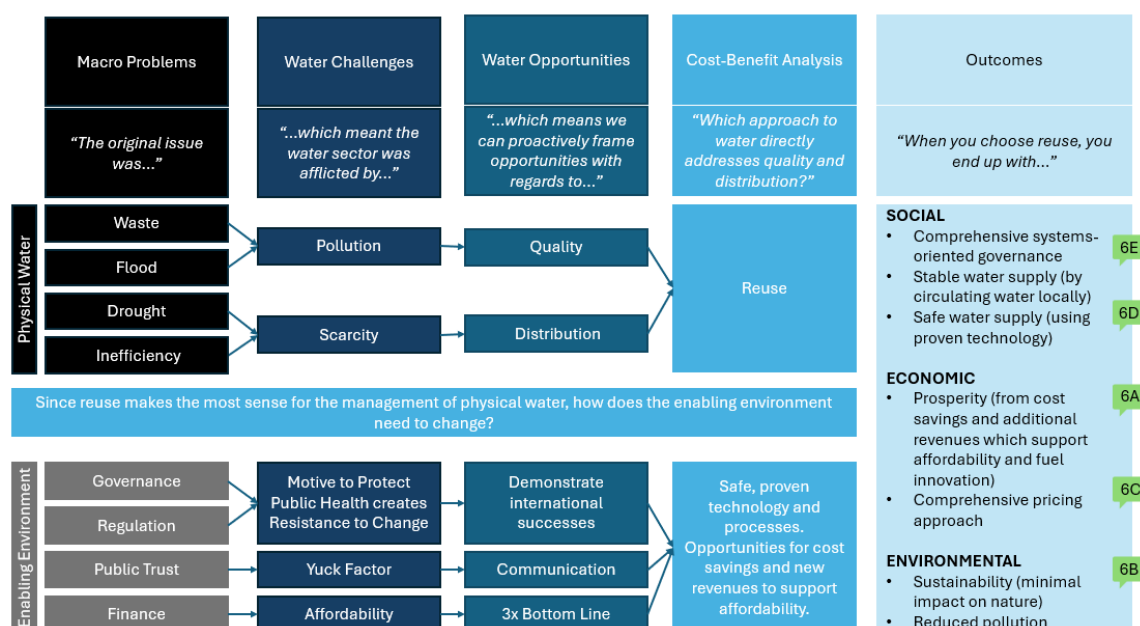


Figure 5. Mapping the outcomes of reuse with the 5 Topics within Theme 6 ‘Value of Water’.

List the five topics under this theme as per the official framework.

Topic No.	Topic Title	Brief Focus Description (less than 5 sentences)
6A	Valuing water for sustainable economic growth: Recognizing and strengthening the full value of water for sustainable development and climate resilience.	This topic recognises water as a strategic input to economic systems and an instrument for prosperity. This topic examines how valuing water more accurately and comprehensively can drive smarter decisions, more resilient economies, and sustainable growth across sectors and regions. Water underpins agriculture, energy, industry, ecosystems, and urban development, yet its economic, social, and environmental value is often undervalued or poorly reflected in decision-making process. Therefore water needs a stable and empowering enabling environment (policy, regulatory, and operational) which includes consideration of the extended value chain and linked sector's decision-making processes when water is discussed.
6B	Advancing efficiency in water management in different sectors: Promoting efficient and circular water use across sectors, notably through smart irrigation, reuse, and urban planning.	All parts of the water sector struggle with inefficiency: water-use inefficiencies are evident in high levels of non-revenue water in urban systems, uneven irrigation performance in agriculture, and limited incentives for industrial water reuse and efficiency.
6C	Pricing water for sustainable management: Implementing water pricing and policies that reflect water's full value, including environmental and social costs.	Water pricing stands as one of the most powerful policy instruments available to advance sustainable management of water resources globally. Yet despite its critical importance, the vast majority of water users worldwide do not pay prices reflecting the true economic, environmental, and social value of water. This fundamental disconnect between the cost of water provision and what users pay creates cascading consequences: inefficient consumption, environmental degradation, inadequate infrastructure investment, and persistent inequities in access. The water sector faces an unprecedented financing challenge. Delivering Sustainable Development Goal 6 (SDG 6)—ensuring access to water and sanitation for all—requires an estimated USD 1.7 trillion by 2030, with current funding falling far short. Simultaneously,

		water scarcity affects more than 2 billion people globally, with projections indicating this will worsen as populations grow and climate change intensifies variability in water availability.
6D	Valuing and foot printing water to drive efficient water policies: Monitoring water footprints of different sectors and virtual flows in trade to reduce impacts and promote responsible consumption.	This topic focuses on the use of water valuation approaches (economic, social, and environmental) and water foot printing tools (blue, green, and grey water footprints) and virtual water to better understand the true value and hidden impacts of water use across sectors and territories. By making water use, pollution, and trade-offs visible, these tools support evidence-based, equitable, and efficient impacts water policies, guiding allocation, regulation, investment, and sustainability decisions under increasing water scarcity and climate stress.
6E	Water resources as a national natural capital: towards a paradigm shift: Ensuring water allocation guided by efficiency and fairness, maximizing benefits while ensuring access for all.	Globally, increasing hydro-climatic variability, pollution, ecosystem degradation, and competing demands from agriculture, cities, energy, and industry are intensifying pressure on freshwater systems. Regionally and locally particularly in arid, semi-arid, fragile, and conflict-affected contexts these pressures translate into heightened vulnerability, inequality, and socio-economic instability. This topic responds to these challenges by advancing a paradigm shift from control-oriented, fragmented, and expert-driven water management toward stewardship-based, adaptive, inclusive, and systems-oriented governance, recognizing water as natural national capital. This shift also requires strong coordination both at nationally and across borders level with the grounded in trust, data exchange, and a commitment to shared interests.

II. Cross-Process Dialogue and Cooperation

This section guides each Theme Coordinator to conceptualize the collaborative dialogues to be co-developed with other processes:

Cross-Process Dialogue Topics – *Propose 2–3 dialogues linking the theme to each of the different Political Processes. Propose interactions with dedicated regions of the Regional Process.*

- Theme 6 ‘Value of Water’ with Theme 1 ‘Water Security’ particularly with regards to Topic 1D about closing the loop in water resources management which relates strongly to reuse.
- Theme 6 ‘Value of Water’ with Theme 2 ‘Water Finance’ particularly with regards to Topic 2A about innovative water financing mechanisms.

- Theme 6 ‘Value of Water’ with Theme 2 ‘Water Finance’ particularly with regards to Topic 2B about public and private sector engagement.

Intended Outcomes of Dialogue – *Define expected policy, institutional, or programmatic results.*

- Greater mutual insight into, and policy influence regarding, methods of honing water’s circularity (Topic 1D).
- Greater mutual insight into, and policy influence regarding, methods of innovating water finance (Topic 2A).
- Greater mutual insight into, and policy influence regarding, methods of increasing public and private sector engagement (Topic 2B).

Proposed Timing and Venue or Online – *Indicate when, **how** and where these dialogues could occur (e.g., during the 2nd Stakeholders Meeting, online, etc.).*

- Online (high scheduling flexibility)
- During the 2nd Stakeholders Meeting
- During the main 11th World Water Forum
- These could take a variety of forms such as closed-door meetings, public sessions, or webinars

III. Expected Outcomes and Deliverables

Each Theme and its Topics are expected to generate action-oriented, measurable, and lasting results showcased during and beyond the Forum. Include both outcome types and specific actions or initiatives.

Policy and Strategic Outcomes – *Recommendations, guidelines, or frameworks; contributions to the different political tracks (ministerial, parliamentary, local and regional authorities, basins authorities).*

- Recommendations to support developing adjusted policy framework for water valuing
- A cross-sectoral strategy that identifies and links opportunities for reuse.
- Engage with regulators to promote pathways to incentivise reuse.

Technical and Knowledge Deliverables – *Toolkits, data platforms, thematic synthesis reports, case studies, or best practices.*

- White paper on the opportunity to scale reuse (and its meaning for the value of water)
- Case studies on the effective implementation of reuse in different locations, including pitfalls to avoid.

Partnership and Financing Outcomes – *Co-financing models, partnerships with funding organizations or development banks or private sector, projects, etc.*

- Development of a multi-Stakeholder Knowledge Hub about reuse and the value of water
- Engagement with utilities’ enabling environment including governmental agencies, the private sector, and development banks

Actions and Initiatives – *Multi-stakeholder or basin-level projects, pilot actions, MoUs, or network coalitions for implementation.*

- Promote global pilots and projects to scale reuse within water utilities.
- MoUs with regulators to encourage reuse-focused dialogue.

Communication and Legacy – *Visibility strategy, integration into Forum declaration, and post-Forum monitoring.*

- Integration of a statement about the value of water and reuse in the 11th World Water Forum declaration.
- Promotion of the strategy through established communication networks.
- Commitment to continued advocacy about reuse in order to proactively and positively transform the water sector.

IV. Monitoring and Post-Forum Action

Explain how outcomes under this theme will contribute to Forum legacy, ongoing partnerships, and integration into global platforms.

- **12th World Water Forum:** It will be very important to continue the tracking of this theme at the subsequent World Water Forum because of the influence of the stakeholders involved, but also because of the strong foundation and momentum being built over time.
- **UN Water Conference:** This will be an integral part of the legacy because the 5 Topics under Theme 6 have strong connectivity with many of the SDGs.
- **Global Water Summit:** The Global Water Summit is notably and investment-oriented water event which is ideal to promote and attract investment to reuse in order to ensure practical change occurs on the ground.

ⁱ World Wildlife Fund. “[Water crisis threatens \\$58 trillion in economic value, food security and sustainability.](#)”

ⁱⁱ Nature. “[Future global urban water scarcity and potential solutions.](#)”

-
- iii World Bank. "[Scaling Water Reuse: A Tipping Point for Municipal and Industrial Use.](#)"
 - iv 2026 United Nations Water Conference, United Kingdom. "[Theme 6: Investments for Water: Finance, Technology and Innovation, and Capacity Building.](#)"
 - v Water Leader Magazine. Volume 2, Issue 2. "Millionaire's Digest."
 - vi Water Leader Magazine. Volume 2, Issue 2. "Millionaire's Digest."
 - vii World Bank. "[Scaling Water Reuse: A Tipping Point for Municipal and Industrial Use.](#)"
 - viii Science Direct. "[Carbon footprint analysis of wastewater treatment processes coupled with sludge in situ reduction.](#)"