UNCTAD's contribution

2026 United Nations Water Conference

Interactive Dialogue Concept Papers

I. Introduction

The accelerating digital transformation, underpinned by the rapid expansion of data infrastructure and the growing use of artificial intelligence (AI), is significantly increasing global demand for energy and water resources.[1] Data centres are particularly water-intensive, requiring substantial amounts of potable water both directly for onsite cooling and indirectly through its use in semiconductor manufacturing and energy supply. Thus, data centres' water consumption has emerged as a growing concern in sustainable water management discussions, particularly in relation to SDG 6 (clean water and sanitation) and its interlinkages with SDG 9 (industry, innovation and infrastructure), SDG 12 (responsible consumption and production), and SDG 13 (climate action).

II. Status and trends

The International Energy Agency[2] estimates that global water consumption for data centres is currently around 560 billion litres per year, and this could more than double to around 1,200 billion litres per year in 2030.[3] About two-thirds of such consumption in 2023 was associated with primary energy supply and electricity generation, a further one-quarter with direct cooling and the remainder for water used in semiconductor and microchip manufacturing.

Water use occurs throughout a data centre's life cycle, but during the operational phase, it is primarily associated with cooling systems, with the scale of consumption varying by climate, technology, and local water availability. Cooling systems of data centres rely on clean freshwater sources to prevent issues such as corrosion and bacteria growth. In warmer regions, the rapid expansion of data centres to support digital growth and data sovereignty is expected to further intensify pressure on already scarce freshwater resources.

Advances in cooling technologies and higher equipment temperature tolerance have helped reduce dependence on water-based cooling systems, while reclaimed wastewater and seawater are emerging as alternative sources. However, trade-offs persist: water-free cooling can raise electricity demand, and the water footprint of additional power generation may offset direct savings.

III. Challenges and emerging issues

1. Competition for water resources

In water-stressed regions, huge consumption of freshwater by data centres intensifies competition between industrial, agricultural, and community needs. For example, in the United States, one-fifth of servers are located in moderately to highly water-stressed watersheds, and nearly half rely on

[1] UNCTAD, July 2024, Digital Economy Report 2024.
[2] International Energy Agency, April 2025, Energy and AI .
[3] For comparison, on average a 100 MW hyperscale data centre in the United States consumes around 2 million litres per day in total – equivalent to about 6,500 households – with over 60% of this being indirect water use, according to the same IEA report.

electricity generated in such regions.[4] Growing awareness of the local impacts of data centres has sparked public opposition in some countries.[5]

2. Environmental concerns

Over-extraction of groundwater or surface water can damage rivers, wetlands, threatening aquatic biodiversity and long-term ecosystem resilience.

3. Limited transparency and data gaps

Reliable global data on water consumption by data centres remains limited, with only a small fraction of operators, primarily large hyperscale providers, disclosing their water use.

IV. Recommendations and conclusions

UNCTAD calls for more attention to be given to the environmental footprint of digitalization.[6] Moreover, ensuring sustainable water management in the rapidly growing data centre sector requires a holistic, cross-sectoral approach that integrates digital development, water stewardship and climate resilience. More specifically to

1. Promote transparency and standardized reporting: governments and industry associations could require or incentivize disclosure of direct and indirect water use by data centres.
2. Encourage technological innovation: support R&D in advanced cooling technologies that balance water and energy efficiency.
3. Adopt integrated water–energy management approaches: policymakers should assess the trade-offs between electricity and water use when approving new data centre projects.
4. Prioritize location-specific planning: data centres should be sited in areas with adequate water resources or designed to rely on non-potable or recycled water.
5. Foster international cooperation and knowledge-sharing: develop best-practice guidelines on water-efficient digital infrastructure, particularly for developing countries.
6. Align business incentives with sustainability goals: encourage commitments to water replenishment, circular water use, and local community engagement.

VI. Guiding Questions

1. How can governments and industry better monitor and report water consumption by data centres to inform sustainable policy decisions?
2. How can developing countries balance the need for digital infrastructure expansion with limited water availability?
3. What partnerships can be established between the ICT sector, utilities and local communities to manage water use responsibly?
4. How can water–energy nexus assessments be integrated into digital infrastructure planning?
5. How should government policies and corporate strategies better factor in the environmental footprint of digitalization to protect people and the planet?

[4] Siddik MAB, Shehabi A and Marston L (2021). The environmental footprint of data centres in the United States. Environmental Research Letters. 16(6).
[5] UNCTAD, July 2024, Digital Economy Report 2024.
[6] UNCTAD, July 2024, Digital Economy Report 2024.

2026 United Nations Water Conference

Template for Interactive Dialogue Concept Papers

I. Introduction (500 words)

Water is an indispensable driver of trade, industrial transformation, and sustainable development. It is both a productive input and a shared environmental resource that sustains livelihoods, manufacturing, agriculture, and the resilience of communities and ecosystems (SMEP, 2025). As global value chains become increasingly water-dependent, reliable and sustainable water systems have emerged as determinants of economic competitiveness, supply chain resilience, and market access. supply chain resilience and market access. From textile production and agro-processing to chemical and electronics manufacturing, industries rely heavily on water resources, not only for operational processes, but for compliance with sustainability standards and traceability in export markets.

Export-focused enterprises now face growing compliance expectations linked to environmental due diligence, circularity, and responsible water management (SMEP, 2025).

Whilst water governance dialogues traditionally focus on resource management and WASH systems, the trade and industrial dimensions have remained largely overlooked. UNCTAD occupies a unique position within the UN system to bridge this gap. Its mandate, spanning trade, investment, entrepreneurship, global value chains, commodities, and the trade–environment nexus—enables a holistic understanding of water as a strategic resource embedded in economic systems. Industrial water efficiency, wastewater governance, and investments in treatment infrastructure are essential not only for environmental protection but also for the achievement of SDGs 6, 8, 9, 12, and 14 and for strengthening the resilience of developing economies navigating global markets.

Drawing on evidence from the UK-funded Sustainable Manufacturing and Environmental Pollution (SMEP) Programme, UNCTAD provides insights into industrial water use, pollution flows, and emerging investment models. SMEP-supported studies, including:

- piloting scalable solutions to curb water pollution caused by untreated or poorly treated effluent from diverse industrial sectors in the Nairobi Rivers Basin (Kenya)

- microplastic pollution mitigation through treating the wastewater produced through the plastic recycling process (Kenya)
- testing an innovative wastewater treatment technology (minimum liquid discharge/MLD) in textile factories to show that industries can clean and reuse their water much more efficiently and at far lower cost (Pakistan)
- installation of advanced wastewater recovery systems (through a public-private partnership) that purify and recover 1,200 m^3/day, using high-efficiency disc filtration, ultrafiltration, and reverse osmosis (Bangladesh)
- financial advisory support for effluent treatment in Bangladesh and Kenya.

These initiatives show that water-smart industrial systems offer co-benefits: reducing pollution loads, improving business competitiveness, enabling compliance with international sustainability standards, and protecting ecosystems and human health.

This concept paper outlines UNCTAD's contribution to the 2026 United Nations Water Conference, showing how water, trade and development are interconnected and why water governance must address economic and industrial realities, especially in export-oriented manufacturing sectors in the Global South where water use, wastewater management and compliance with global sustainability standards directly influence competitiveness and market access.

By advancing SDG 6 and driving progress on SDGs 8, 9, 12, 13, 14 and 15, whilst also contributing to SDG 5, SDG 7, SDG 1 and SDG 3 through co-benefits in health, gender inclusion and clean energy, UNCTAD's work on water-efficient industrialisation highlights the need for stronger regulatory coherence, enhanced transparency and robust due-diligence practices across global value chains. These efforts underscore the importance of strengthened UN system cooperation to align trade, investment and industrial policy with environmental sustainability.

In doing so, UNCTAD reaffirms its commitment to supporting Member States in building water-resilient industrial pathways that promote economic prosperity whilst safeguarding human health and planetary boundaries.

II. Status and trends (1000 words)

a. Industrialisation, water demand, and pressure on ecosystems

Industrialisation is a major source of water demand and pollutant loading in developing economies. SMEP studies across South Asia and sub-Saharan Africa show that textiles, tanneries, plastics recycling, and food-processing industries exert growing pressure on water systems, often outpacing the capacity of national regulators and wastewater infrastructure.

The Nairobi Rivers Basin (NRB) in Kenya is emblematic. Pollution assessments of 122 industries and institutions found:

- Only 10 of 33 direct-discharging facilities meet national BOD limits.
- Only 1 of 33 complies with COD standards.
- Collectively, facilities release ~237,560 tons of BOD and ~894,569 tons of COD annually.

These loads overwhelm the river system's natural self-purification capacity, resulting in:

- severe ecological degradation
- declining fish populations
- reduced downstream water usability
- heightened pathogen survival
- increased treatment costs for communities and utilities.

Similar patterns are observed in industrial clusters across South Asia and West Africa and mirror trends in numerous industrial corridors globally.

b. Groundwater dependence and risks

In Bangladesh, Pakistan, and parts of East Africa, groundwater abstraction is high and poorly regulated. Bangladesh alone has between 6–11 million tube wells, serving both households and industries; 98% of the population relies on groundwater for drinking water. Industrial dependence on unpriced groundwater is widespread and incentivizes overuse. Arsenic contamination, affecting over 20 million people, adds further urgency to groundwater protection.

The absence of volumetric water pricing or abstraction permits reduces incentives to invest in reuse and recycling. SMEP partners in Bangladesh note that industries internalize only the cost of pumping, not the broader resource depletion. There

are early discussions toward industrial water pricing, but implementation remains limited.

c. Emerging compliance expectations from global markets

Sustainability, circularity, and environmental due diligence requirements especially in major export markets are reshaping production landscapes. Exporters must demonstrate:

- responsible water use
- wastewater treatment
- transparency and traceability in supply chains
- reduced reliance on single-use plastics
- circular production practices

This creates compliance pressure but also drives innovation. UNCTAD's research shows that industries adopting resource-efficient water management often improve competitiveness and reduce operational risk.

d. Technology, financing and institutional barriers

Advanced technologies membrane filtration, high-recovery systems, minimum liquid discharge (MLD), electrocoagulation, decentralized treatment are increasingly available. Yet, uptake remains low due to:

- limited access to affordable finance
- mistrust in vendor claims
- inadequate O&M capacity
- lack of incentives for environmental compliance
- costly or delayed access to spare parts
- limited institutional support for SMEs

SMEP evidence shows that technology without enabling finance, regulation, and capacity-building delivers limited results. Integrated approaches are required.

III. **Challenges and emerging issues** (2000 words): This section will highlight challenges and opportunities relating to the topics addressed in the interactive dialogue, particularly those that have emerged or become more urgent since the

2023 Water Conference. This section will also identify interlinkages and synergies between the relevant SDG 6 targets and other SDGs.

A. Water for prosperity (b) and water for planet (c)

Industrial water mismanagement poses major challenges for both **prosperity** and **planetary health**. In the Nairobi Rivers Basin (NRB), industrial effluent with excessive BOD and COD loads strips dissolved oxygen from receiving waters, causing fish kills, degraded aquatic vegetation and reduced water usability for domestic, agricultural and industrial purposes. SMEP's health impact modelling shows that removing or treating pollutants upstream significantly reduces morbidity among downstream communities, highlighting the human and economic costs of inaction.

Widespread non-compliance is a central challenge. Pollution assessments of 122 facilities in the NRB reveal:

- 33 direct dischargers: Only 10 meet BOD limits and 1 meets COD limits.
- 80 sewer-connected facilities: 69 meet the BOD limit, 53 meet the COD limit.
- 13 ETP discharge points: Only 4 meet the BOD limit; none meet the COD limit.

Collectively, industries generate ~797 million m^3 of wastewater annually, releasing an estimated 237,560 tons of BOD and 894,569 tons of COD. These pollution loads overwhelm the river's natural self-purification capacity, causing:

- severe ecological stress and biodiversity loss
- increased pathogen survival and heightened public-health risks
- higher treatment costs for communities and utilities
- reduced productivity for water-dependent sectors

Beyond effluent quality, **water abstraction** poses a parallel challenge. In several SMEP countries, including Bangladesh, Pakistan and Kenya, groundwater is largely **unpriced**, with no volumetric abstraction controls. This encourages over-extraction by water-intensive industries, contributing to declining water tables and threatening water security for surrounding communities. In Bangladesh, where **98% of the population relies on tube wells**, uncontrolled industrial abstraction exacerbates already documented groundwater contamination, including arsenic.

Technological and operational barriers further hinder progress. SMEP pilots show that industries often:

- underestimate the **operations and maintenance requirements** of treatment systems
- misjudge the true **lifecycle cost** of wastewater treatment
- mistrust vendor claims based on past poor installations
- lack access to **affordable finance** for treatment upgrades or reuse technologies

As a result, many effluent treatment plants remain underperforming or non-functional, perpetuating pollution and exposing firms to compliance and market-access risks.
Microplastics and nanoplastics add a growing planetary challenge. SMEP studies show that synthetic textile processes, plastics recycling wastewater and industrial runoff are significant contributors to microplastic pollution in rivers. These particles act as carriers for persistent pollutants, degrade freshwater ecosystems and move downstream into estuarine and marine environments.

Addressing these intertwined challenges—pollution loads, groundwater over-abstraction, technology gaps, and microplastic contamination—is essential to securing **prosperity** by safeguarding industrial productivity and human health, and protecting the **planet** by restoring ecological integrity and improving resilience of water systems.

B. Water in multilateral processes

Water governance is increasingly shaped through multilateral processes that cut across environmental agreements, trade frameworks and the 2030 Agenda. However, these processes often treat water as a sectoral or environmental issue, rather than as an economic, industrial and trade-related challenge with direct implications for global value chains, investment flows and industrial competitiveness. This gap limits the ability of Member States—particularly developing countries—to integrate water security into trade, industrial development, and sustainable production strategies.

UNCTAD's work shows that water is embedded in a wide range of multilateral processes, including:

- **SDG 6 and the broader 2030 Agenda**, where water efficiency, pollution control and circular-resource use underpin progress on SDGs 8, 9, 12, 13, 14 and 15.
- **Multilateral Environmental Agreements (MEAs)**, such as the chemicals and waste conventions, the biodiversity framework, and the emerging **global plastics**

treaty, where waterborne pollutants, microplastics and industrial effluent are cross-cutting concerns.

- **Trade and investment frameworks**, where rules on environmental goods, due diligence, sustainable supply chains and tariff structures influence access to water-treatment technologies and shape industrial uptake of pollution-control measures.
- **Climate processes**, where water scarcity, groundwater depletion and water-related industrial risks are increasingly linked to NDC implementation and adaptation finance.

Despite this constellation of processes, **water–trade–industry linkages remain weakly represented** in global governance. There is no multilateral forum that systematically addresses the water implications of industrialisation, global value chains, due-diligence regulations or trade in environmental goods. This creates risks for countries whose industrial competitiveness depends on water-intensive sectors such as textiles, leather, agribusiness and plastics recycling.

UNCTAD can help close this gap. Its analytical and capacity-building tools support Member States in navigating the trade–water–environment interface, including:

- aligning industrial policies with emerging due-diligence frameworks;
- assessing tariff structures and HS codes to improve access to water-treatment technologies;
- promoting circularity and resource efficiency in global value chains;
- supporting coherence between MEAs, the plastics treaty, SDG reporting and trade facilitation reforms.

By positioning water within trade, investment and industrial development discussions, UNCTAD can help ensure that multilateral processes strengthen, not undermine, countries' ability to achieve water security, reduce industrial pollution and build resilient, sustainable economies.

C. Investments for water and water for cooperation

Mobilizing investment for sustainable water management requires both financial innovation and strengthened cooperation across science, policy, industry and communities. SMEP pilots demonstrate that targeted financing and collaboration

models can significantly accelerate the adoption of water-efficient technologies and reduce industrial pollution, particularly in water-stressed and export-oriented economies. SMEP provides **actionable financing and cooperation models** that illustrate how investment can be directed where it is most needed:

- Fakir Knitwear **(Bangladesh):** Partnership with Panta Rei demonstrating high-recovery wastewater reuse and substantial reductions in freshwater abstraction; supports national efforts under Bangladesh's National Water Alliance.
- Kenyan National Cleaner Production Centre (KNCPC) **(Kenya):** Basin-wide pollution mapping, coupled with capacity-building for effluent-treatment plant (ETP) selection, operation and maintenance, informs more effective allocation of public and private investments in the Nairobi Rivers Basin.
- Solidaridad's 1% surcharge model**:** A downstream consumer-funded mechanism enabling suppliers to finance zero-liquid-discharge (ZLD) and minimum-liquid-discharge (MLD) investments—aligning buyer incentives with supplier-level water stewardship.
- Gravity-filter systems**:** Low-cost, low-carbon, traditional knowledge-based solutions suitable for SMEs and rural or peri-urban communities lacking access to piped water treatment infrastructure.
- Wastewater treatment market assessments **(Kenya & Uganda):** Identification of membrane-technology investment gaps and opportunities for local manufacturing and import facilitation.

UNCTAD advocates for **de-risking instruments**, including guarantees, concessional finance, blended finance and climate-aligned funding—to enable SMEs and mid-sized manufacturers to adopt advanced treatment and reuse systems. Trade-facilitation measures, including the use of key Harmonized System (HS) classification to facilitate access to critical water-treatment technologies helps reduce investment risk and supports the institutional capacities needed for sustainable water management remain essential, particularly for **spare parts, membranes, sensors, high-efficiency pumps, and other critical components** whose availability and cost determine long-term system performance.

Cooperation across local, national and international actors enhances investment effectiveness. SMEP shows the value of science–policy collaboration, multistakeholder platforms, regional supply-chain coordination and consumer-trust initiatives. Together,

these mechanisms mobilise capital, reduce risks and strengthen institutions for sustainable water management.

IV. **Solutions** (2000 words): This section will offer action-oriented, innovative, and pragmatic solutions to challenges. It will shine a spotlight on impactful initiatives, programs and projects from around the world that can be scaled up and/or transferred to other contexts. Potential partnerships among Member States and with other stakeholders will feature prominently.

Achieving water security in industrialising economies requires solutions that are practical, scalable and adaptable across contexts. Experience from the Sustainable Manufacturing and Environmental Pollution (SMEP) Programme demonstrates that effective technological, policy, financing and governance innovations already exist and can be accelerated through partnerships among governments, industry, development partners and financial institutions. UNCTAD brings a distinctive contribution by linking these solutions to trade, investment and industrial development priorities.

A. Technological solutions

Technological innovation offers immediate opportunities for reducing industrial water use, improving treatment outcomes and lowering pollution loads. SMEP pilots show that high-impact technologies can be deployed affordably and replicated across sectors and regions.

i. High-recovery wastewater reuse systems (Bangladesh): Fakir Knitwear's model demonstrates up to 90% reuse, reduced abstraction and alignment with international buyer standards
ii. Electrocoagulation (Pakistan): The SAFECONOMY pilot achieves high pollutant removal at lower cost, offering a practical option for SMEs
iii. Gravity filters: Low-capex filtration, traditional knowledge-based solutions provide clean water for SMEs and rural communities with minimal energy use
iv. Bio-based barrier coatings: Wax, seaweed and PHA coatings reduce microplastic leakage from packaging
v. Machine-learning models: Data-driven optimisation tools improve ETP performance and support regulatory planning.

These technologies can be transferred to other water-intensive sectors—including textiles, leather, agrifood and plastics recycling—through trade facilitation, technical cooperation and investment support.

B. Policy solutions

Robust policy frameworks help industries adopt cleaner production practices and sustain compliance. UNCTAD supports Member States in aligning water, trade and industrial development objectives.

i. **Industrial water pricing** with safeguards for vulnerable communities
ii. **Compliance enforcement combined with SME support**, including clearer guidance on technology choice and lifecycle costs
iii. **Integrating water into trade, industrial and investment policy**, especially in export-oriented sectors
iv. **HS Code-based tracking** of critical water-treatment equipment to streamline imports and expand technology access
v. These approaches help governments create enabling environments for water-efficient industrialisation whilst maintaining competitiveness.

C. Financing solutions

Targeted financing mechanisms can facilitate and expand access to investment for wastewater treatment and reuse, particularly for SMEs in pollution-intensive clusters.

i. Solidaridad's surcharge model: Downstream consumers co-finance supplier-level ZLD/MLD upgrades
ii. **Water credit systems (Bangladesh, proposed):** Monetising verified water savings to incentivise reuse technologies
iii. **Blended finance:** Combining concessional finance, grants and TA to reduce the cost of ETP upgrades
iv. **Guarantees and de-risking instruments:** Lowering borrowing costs and encouraging commercial lending
v. **Trade facilitation for environmental goods:** Simplifying import procedures for membranes, pumps, sensors and critical spare parts
vi. **Financing models** linked to supply chains, investment promotion and trade policy can accelerate the shift toward sustainable industrial water management.

D. Governance and capacity-building

Strengthening institutional capacity is essential for sustained impact. SMEP pilots demonstrate that effective governance depends on data, trust and coordinated action.

i. **Financial advisory services** to support evidence-based ETP planning and address mistrust in technology markets
ii. **Gender-responsive governance**, ensuring inclusive participation in water-related decisions
iii. **Cross-border technical cooperation**, particularly in shared basins and regional production networks
iv. **Local–global dialogue platforms** linking regulators, industry associations, basin authorities, researchers and communities
v. These governance solutions help countries build the capabilities needed to manage water risks whilst supporting productive transformation.

E. Partnerships

Scaling water-smart industrial solutions requires collaboration among Member States, businesses, research organisations and development partners. SMEP demonstrates the value of partnerships for technology transfer, financing innovation, compliance improvement and community engagement.

Opportunities include:

i. South–South cooperation on membrane technologies, electrocoagulation and gravity-filter manufacturing
ii. Buyer–supplier–finance partnerships to expand surcharge mechanisms and water-credit schemes
iii. Basin-level cooperation to improve monitoring, enforcement and data sharing
iv. Trade-related partnerships that align tariff schedules, standards and investment incentives for water-efficient technologies.

V. **Recommendations and conclusions** (2000 words)

Global water efforts have made significant progress through the Water, Sanitation and Hygiene (WASH) agenda, yet the upstream drivers of water degradation remain insufficiently addressed. Industrial water use and pollution determine the very quality and availability of the water WASH systems depend on. Without integrating industrial water governance into global water processes, efforts remain structurally incomplete — strong on service delivery, but weak on protecting the resource base itself. UNCTAD's recommendations therefore complement WASH initiatives by addressing the industrial dimension of SDG 6, strengthening water security at its source and ensuring that gains in access, health and resilience are fair, equitable and sustainable over time.

UNCTAD recommends that Member States and partners:

1. **Introduce industrial water pricing that rewards efficiency and reuse** to reduce over-abstraction and strengthen responsible resource use)
2. **Strengthen enforcement whilst providing targeted SME support** to enable compliance without undermining competitiveness
3. **Deploy de-risking instruments for industrial water treatment and reuse** e.g., guarantees, blended finance and concessional lines for high-pollution sectors
4. **Facilitate trade in essential water-treatment technologies and components** streamline imports of membranes, pumps, sensors, filters and spare parts
5. **Embed water-use disclosure and due diligence in global value chains** to drive accountability and support market access in export-oriented sectors)
6. **Expand science–policy cooperation for monitoring, modelling and innovation** to strengthen evidence-based decision-making and early-warning systems
7. **Promote South–South and triangular cooperation on industrial water solutions** to accelerate transfer of affordable technologies and regulatory models)
8. **Advance gender-responsive water governance** to ensure equitable participation and address differentiated water burdens

Water is a foundational asset for prosperity and planetary and human health. Industrial water management reinforces WASH outcomes by protecting the ecosystems and water sources that communities rely on. UNCTAD stands ready to support Member States in aligning trade, industrial development and environmental stewardship, ensuring that sustainable water management becomes a driver of competitiveness, resilience and inclusive growth.

VI. **Guiding questions** (1000 words)

A. Water for prosperity *(Theme b)*

i. How can industries internalize the true economic costs of effluent discharge across entire catchments, including impacts on water availability, downstream users, agriculture and utilities?
ii. What trade and investment incentives can accelerate industrial adoption of wastewater treatment, reuse and circular water systems?
iii. How can industrial water governance be aligned with national development, export competitiveness and job-creation strategies?

B. Water for planet *(Theme c)*

i. What regulatory and market measures can reduce microplastic and nanoplastic pollution from textiles, packaging and plastics recycling industries?
ii. How can trade policy accelerate the uptake of low-pollution materials and environmental goods, including membrane systems, filters and bio-based substitutes?
iii. How can circular economy and resource-efficiency principles be integrated into water-intensive sectors to protect ecosystems and strengthen climate resilience?

C. Investments for water *(Theme f)*

i. How can countries de-risk and enable capital expenditure for advanced water treatment and reuse systems at factory level, especially for SMEs?
ii. Should import-facilitation measures for water-treatment technologies be expanded to cover maintenance parts and consumables to avoid system failure and enhance long-term performance?
iii. How can blended finance, guarantee schemes and value-chain–based mechanisms crowd in private investment for industrial water stewardship?

D. Water for cooperation *(Theme d)*

i. How can science–policy cooperation improve shared understanding of pollutant pathways, strengthen basin-level governance and address transboundary industrial water challenges?
ii. What platforms are needed to support cross-border data sharing, joint monitoring and coordinated enforcement of industrial water standards?

iii. How can UNCTAD facilitate dialogue between trade, environment and industry actors to align regulatory frameworks, investment policies and market incentives toward shared water security goals?

E. Water for People *(Theme a)*

i. Are there low-cost, low-pollution delivery systems that can provide safe, potable water with minimal plastic waste and low CO_2 footprints?
ii. How can industrial pollution reduction and water-use efficiency contribute directly to improved WASH outcomes for communities living near industrial corridors?
iii. What gender-responsive approaches can ensure equitable participation in water decision-making, particularly for communities disproportionately exposed to industrial water risks?

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