
CII-TRIVENI
WATER INSTITUTE
CII
Confederation of Indian Industry
CII
10th Water Innovation Summit 2024
12-13 November 2024, New Delhi
Viksit Bharat@2047:
Water Partnerships for
Sustainable and Inclusive Growth

RETROSPECT

About CII- Triveni Water Institute

CII - Water Institute (CII-WI), CII's Centre of Excellence, working exclusively on water and wastewater, has been extensively engaging with diverse stakeholders, chiefly industry and Government in providing water solutions.

In managing water resources from an Integrated Water Resources Management perspective, CII Water Institute offers total water management (IWRM) services that focus on a collaborative process with clients to determine their overall goals and objectives for water management. Our approach to evaluating water decision options from a system-wide perspective, from supply through treatment, reuse, and a safe and sustainable return to supply. CII Water Institute's WATSCAN tools use advanced technology to pinpoint implementable solutions, based on specific criteria and constraints.

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ABOUT THE CONFERENCE

Water, a critical resource, is fundamental to economic development, environmental sustainability, and societal well-being. However, challenges such as climate change, pollution, over-extraction, and inefficient use present significant threats to India's water resources.

India's vision for *Viksit Bharat@2047* reflects the nation's aspiration to become a fully developed country, with water security being a key pillar for achieving this goal. As the country aims for long-term prosperity, adopting inclusive and collaborative water management practices is essential for supporting growth while preserving vital resources for future generations. This transition will require innovative strategies, partnerships, and collective efforts to ensure sustainable and equitable distribution of water resources.

The Hon'ble Prime Minister's ***Jal Sanchay Jan Bhagidari*** initiative calls on citizens to collectively conserve, create, and prudently manage water resources. This highlights the need for partnerships and collaborative efforts to develop smart, sustainable solutions for water security.

Against this backdrop, the Confederation of Indian Industry (CII) hosted the 10th Edition of the Water Innovation Summit on 12th-13th November 2024 in New Delhi. Centered on the theme "Viksit Bharat@2047: Water Partnerships for Sustainable and Inclusive Growth".

The Summit fostered dialogue among 350+ delegates, including government officials, industry leaders, strategic thinkers, and academics to exchange views, discuss, and deliberate. Discussions focused on scalable solutions, policy frameworks, and innovations like wastewater reuse, efficient irrigation, and water-saving technologies and financial models that enhance water sustainability while addressing inclusivity.

The key Messages / takeaways from the 2-day deliberations are

1. **Water to be treated as a shared resource:**

Water must be treated as a shared resource, with the involvement of all stakeholders in managing the hydrological cycle. Effective governance ensures equitable access, sustainable use, and protection of water resources, essential for economic development, environmental sustainability, and societal well-being

2. **Promote Circular Water Economy:**

Emphasize wastewater recycling, rainwater harvesting, and advanced water conservation practices, reducing reliance on freshwater sources while enhancing reuse and recovery. By incorporating principles of water reuse, wastewater treatment, and sustainable practices like rainwater harvesting and resource recovery, long-term water security can be ensured while fostering sustainable growth.

3. **Controlling point and non-point pollution**

Mandatory audits of water recycling practices and enhanced monitoring of pollution control systems are crucial to ensure adherence to water management standards. Need for a phased, industry-targeted approach to pollution control, starting with the most polluting sectors, and encouraging the reuse of treated sewage and industrial wastewater.

Efforts should be directed at addressing non-point pollution sources, particularly agricultural runoffs and pesticides, which contribute significantly to water contamination.

Industries should further embrace innovative solutions beyond existing technologies to address evolving challenges and enhance sustainability further.

4. Launch a New Revolution in Food Systems/Agriculture:

Launch a new revolution in food systems to improve water productivity in agriculture while meeting the nutritional needs of a growing world population

The future of food production must align with sustainable water management practices. Innovations such as drip irrigation, efficient water usage in crop production, wastewater recycling, and adopting climate-resilient agricultural techniques can significantly reduce water consumption while ensuring food security.

5. Adoption of Clean Energy and AI:

Integrating clean energy and artificial intelligence (AI) into water management systems enhances efficiency. AI can optimize water usage, predict water shortages, and streamline resource distribution, while clean energy supports sustainable water treatment and wastewater management processes, reducing the carbon footprint of water-related activities.

6. Harness Data for Action by Governments, Businesses, and Communities:

Data-driven approaches are crucial for effective water management. Real-time monitoring tools, IoT-enabled systems, and digital dashboards can provide actionable insights, allowing governments, businesses, and communities to make informed decisions. This can lead to improved water efficiency, policy formulation, and operational effectiveness in water management.

7. Financing for a Sustainable Water Future:

Financial mechanisms like green financing, water credits, and incentives for sustainable water practices can drive investments in water infrastructure and technologies. These mechanisms should focus on and promote equitable access, ensuring that financial resources are directed towards sustainable water solutions in vulnerable regions and sectors.

8. A Multi-Stakeholder Approach with a Clear Action Agenda:

A multi-stakeholder approach is key to addressing water challenges. Collaborative efforts involving governments, private enterprises, and communities must focus on creating clear action agendas, institutional innovation, and capacity building. This ensures that water-related challenges are addressed holistically and sustainably, with coordinated efforts and shared responsibilities.

9. Capacity building and training :

Water and wastewater engineering education in India needs to be strengthened to support the

development of more effective and innovative water treatment solutions.

- Need for Industry-specific training /Certification programs to promote efficient water use, wastewater treatment, and circular economy practices for water professionals and Capacity building in water governance for Local authorities
- Training local communities in water conservation techniques like rainwater harvesting, wastewater recycling, and efficient irrigation practices.
- Foster Public-private partnerships to create collaborative training programs tailored to regional water challenges.

10. **Strengthen Infrastructure**:

    Expand sewage treatment capacities and modular water quality monitoring systems to support industrial reuse and public health in urban and remote areas.

11. **Encourage Community Involvement:** Engage local communities in water conservation through the co-creation of solutions and participatory governance, ensuring wider impact at district and regional levels.
12. **Incorporate Water Stewardship in Governance and Policy:** Integrate water conservation into corporate strategies.

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Day 1: 12th November 2024 (Hotel Le Meridian)

Session 1: Inaugural Session

(L-R) Mr Nikhil Sawhney, *Chairman CII-Triveni Water, Vice Chairman & Managing Director, Triveni Turbine Ltd****; H.E. Mr Kimmo Lähdevirta,*** *Ambassador of Finland to India, Embassy of Finland****; Mr Rakesh Kumar Verma,*** *Additional Secretary, Department of Water Resources, River Development & Ganga Rejuvenation Ministry of Jal Shakti, Government of India;* ***Dr Kapil K Narula****, Executive Director & CEO, CII-Triveni Water Institute*

1.1 Welcome and Theme Address by Mr Nikhil Sawhney, Chairman CII-Triveni Water, Vice Chairman & Managing Director, Triveni Turbine Ltd.

Mr Nikhil Sawhney emphasized that water being a dynamic and complex entity is influenced by multiple factors and cannot be tackled with a 'business-as-usual' approach. Involvement of all stakeholders is important to achieve high economic dividends and therefore partnerships are essential for furthering the collaborations.

Mr Sawhney shared that the CII-Triveni Water Institute is working in a meaningful manner to further the water agenda. The Institute is also continuously forging partnerships, outreach, and international collaborations to promote industry-wide adoption of efficient water use practices. The institute is also promoting water conservation and management through water audits, the Blue Rating System, WATSCAN Tool, and Water PINCH analysis. Institute in collaboration with NITI Aayog, has developed water neutrality guidelines for Indian industry.

1.2 Keynote Address, H.E. Mr Kimmo Lähdevirta, Ambassador of Finland to India, Embassy of Finland

H.E. Mr Kimmo Lähdevirta, Ambassador of Finland to India, Embassy of Finland stressed on the need to move away from isolated approaches towards water management to holistic approaches. He discussed several important initiatives and experiences from Finland and

Finnish companies to enhance water management. These included energy-efficient wastewater treatment through biogas and chemical and heat recovery, expanding wastewater recycling, utilizing smart water management technologies, promoting innovative irrigation techniques using sensors, focusing on groundwater recharge and the restoration of water bodies to ensure sustainable water resources for communities.

1.3 Address by the Chief Guest, Mr Rakesh Kumar Verma, Additional Secretary, Department of Water Resources, River Development & Ganga Rejuvenation Ministry of Jal Shakti, Government of India

"Viksit Bharat @2047 embodies India's aspiration to become a fully developed nation—a vision that cannot be realized without ensuring water security for all citizens" **said Mr Rakesh Kumar Verma,** Additional Secretary, Ministry of Jal Shakti, Government of India. He was the Chief Guest at the **10th Water Innovation Summit 2024 with** the theme **Viksit Bharat@2047: Water Partnerships for Sustainable and Inclusive Growth** organised by CII in New Delhi.

Climate change challenges, water variability, quality, and availability, are impacting global water resources, he emphasized. To tackle climate change, we must prepare both supply and demand sides for water management through partnerships and smart and sustainable solutions. "Successful partnerships require inclusive dialogue, multi-stakeholder collaboration and mechanisms for co-creating outcomes, cost-sharing, and meaningful, participatory engagement", he stressed.

To advance water security, the Government of India **proposes** a state-level Integrated Water Resources Management Authority to unify efforts across water-related departments, he informed. A draft model bill has been shared with states, empowering this authority to create water security plans, manage groundwater, and flood plains, and enforce conservation rules at all administrative levels, he added. A key step toward a "Viksit Bharat" is the draft National Water Data Policy, aimed at centralizing data on water quantity, quality, sources, and usage across sectors and levels (local to national). The policy seeks to unify fragmented data, fostering open collaboration and public-private partnerships to enhance water sector information and management, informed Mr Verma.

1.4 Felicitating Companies on Water Neutrality

The Summit also witnessed felicitating companies for their progress on the Water Neutrality journey across three scopes – Aspire (Scope 1), (Scope 2), Achieved (Scope 3) based on Water Neutrality Guidelines set by NITI Aayog.

Infosys Limited, Bengluru Campus was declared as a Water-positive campus achieving water neutrality across all three scopes and was presented **Achieved (scope 3) Certification**.

Infosys Limited, Bengluru Campus receiving Achieved (scope 3) Certification

4 companies received Scope 1 (Aspire) Certification - 1) Hindustan Zinc limited, Rajpura, Dariba Complex, Rajasthan**, 2) JSW Steel Coated Products Limited,** Tarapur Works, Maharashtra **3) JSW steel Limited,** Salem, Tamil Nadu **4) Tata Steel Limited,** Jamshedpur, Jharkhand

1.5 Exchange of MoU: Infosys

An MoU between Infosys and CII Water Institute was exchanged during the Summit. The MOU focussing towards strengthening efforts towards water management aims to identify approaches, technologies and methods that will enable Infosys to realise its water neutrality goal across all sites in India.

Exchange of MOU between Infosys and CII Water Institute

*Caption (L-R**) Mr Nikhil Sawhney,** Chairman CII-Triveni Water, Vice Chairman & Managing Director, Triveni Turbine Ltd**; Mr Sudhir Ramnath**, Vice President, Head – Facilities**; Mr Rakesh Kumar Verma,** Additional Secretary, Department of Water Resources, River Development & Ganga Rejuvenation Ministry of Jal Shakti, Government of India **Mr. Kimmo Lähdevirta,** Ambassador of Finland to India, Embassy of Finland; **Dr Kapil K Narula**, Executive Director & CEO, CII-Triveni Water Institute*

1.6 Concluding Remarks & Vote of Thanks, Dr Kapil K Narula

Dr Kapil K Narula, Executive Director & CEO, CII-Triveni Water Institute, highlighted the challenge of decoupling water consumption from conservation. He emphasized that while growth is inevitable, water conservation efforts must surpass consumption increases. He stressed on the need for an integrated approach to ensure that conservation keeps pace with development, stressing the impact of these efforts on global water sustainability.

Session 1: Water Neutrality: Paving way towards Water Secure India

1. **Objective:** To deliberate on the importance of water neutrality for industries in the current context and understand the step-by-step process of achieving water neutrality as per the NITI Aayog's Framework on Water Neutrality for Indian industries through the journey of Hindustan Zinc Limited (HZL), Rajpura Darbia site, which has achieved Scope 1 certification, and Infosys which has achieved "Water Positive" status for its Bengaluru campus.

(L-R) **Mr Vikrant Kudigi,** Associate Vice President, Senior Regional Head, facilities, Infosys limited, Bangalore, **Mr Avinash Mishra,** Senior advisor CII-Water Institute, Former advisor NITI Aayog, **Mr Vivek Kumar,** Head Environment, Hindustan Zinc limited

2. **Moderator**

- **Mr Avinash Mishra,** Senior advisor CII-Water Institute, Former advisor NITI Aayog

3. **Speakers**

- **Mr Vikrant Kudigi,** Associate Vice President, Senior Regional Head, facilities, Infosys limited, Bangalore
- **Mr Vivek Kumar,** Head Environment, Hindustan Zinc limited

4. **Discussions**

4.1 Mr. Avinash Mishra emphasized the immense economic significance of water, stating that its value and role in economic growth are often underestimated. He pointed out that for India to achieve a $5 trillion economy and become the third-largest economy in the world, water-related risks need to be carefully managed. Citing a report, he noted that a decline in water availability could negatively impact India's GDP, potentially causing a reduction of 8% to 15%.

Achieving India's economic goals requires sustainable water management across several sectors, many of which are heavily water-dependent, stressed Mr Mishra, highlighting, the vast water footprints of various sectors. Despite this heavy water consumption, he stressed that the sectors must transition towards water neutrality. He briefed about the NITI Aayog's Framework on Water Neutrality for Indian industries. He shared that achieving water neutrality is a step-by-step process that enables industries to offset their water use by returning what they withdraw to ecosystems, thereby preserving local watersheds and aquifers.

4.2 Mr. Vikrant Kudigi,Associate Vice President, Senior Regional Head, facilities, Infosys Limited, Bangalore shared that **b**y aligning with the **Scope 1, 2, and 3 guidelines** outlined by NITI Aayog, Infosys has not only reduced its water consumption but also ensured that any water used was sustainably managed and replenished, contributing to a positive water balance for the region.

To achieve this status, Infosys implemented the **4R principles** of **Reduce, Reuse, Recycle, and Recharge** which involved

- ✓ **Retrofits and Technologies**: Upgrading infrastructure to enhance water use efficiency and minimize waste.
- ✓ **Operational Efficiency & Initiatives**: Streamlining water use across the campus, which led to a 50% reduction in per capita water consumption, even as the number of employees at the campus increased.
- ✓ **Organizational Commitment to Water Stewardship**: Embedding water conservation in the company culture and ensuring that water management is a priority at all levels.
- ✓ **Other Specific initiatives** to conserve water included:
    - -**Smart Water Metering and Management** to track and manage water consumption effectively.
    - **Water Quality Monitoring** of freshwater and reused water
    - **Groundwater Recharge** to replenish local groundwater reserves.
    - -**100% Reuse of Treated Wastewater** within the campus.
    - **Identifying the Watershed** of the campus to better understand and manage its water resources.

4.3 Mr. Vivek Kumar, Head Environment, Hindustan Zinc Limited shared that the company has aligned its corporate goals with the NITI Aayog guidelines for water neutrality and s**hared various steps taken by HZL** toward achieving **Scope 1 certification** as part of their broader journey towards **Water Neutrality**.

Mr Kumar shared that the company focussed on **Reduction in Freshwater Usage**, contributing to significant savings and reduced environmental impact. The company has implemented **100% Reuse of Treated Wastewater** within its operations, eliminating the need for fresh water in processes where possible. These measures have helped HZL set a benchmark in the mining industry for achieving **Water Neutrality** through innovation and responsible resource management.

The company has also adopted Innovative Solutions such as Dry Tailings Plant at their mining sites which has significantly reduced the volume of water required in the mining process. HZL has also installed a **Sewage Treatment Plant (STP)** in Udaipur and uses the treated wastewater for their own operational needs, reducing the demand for freshwater.

Session 2: NMCG – CII Session on Rivers
Theme: Rejuvenation and Restoration of Flow and Quality in Rivers

1. **Objective** Showcase strengths, opportunities, and challenges available to key stakeholders in managing river pollution abatement of the flow and quality of Ganga River

Photo and caption

(L-R) *Dr Pravin K Mutiyar, Director (Technical), NMCG; Mr Vijay Kumar, Managing Director, Swan Environmental Pvt. Ltd; Mr Rajat Kumar,Senior WMS,NMCG; Mr Brijendra Swaroop, Executive Director (Projects),NMCG; Dr Kapil Kumar Narula, Executive Director and CEO, CII-Water Institute; Mr BK Agrawal, President (Corporate), Triveni Engineering and Industries Ltd.; and Mr Sumouleendra Ghosh, Partner and Global Water Lead, KPMG*

2. **Moderator**

- Dr Kapil Kumar Narula, Executive Director and CEO, CII-Water Institute

3. **Speakers**

- Mr Brijendra Swaroop, Executive Director (Projects), National Mission for Clean Ganga
- Dr Pravin K Mutiyar, Director (Technical), National Mission for Clean Ganga
- Mr Sumouleendra Ghosh, Partner and Global Water Lead, KPMG
- Mr BK Agrawal, President (Corporate), Triveni Engineering and Industries Ltd.
- Mr Vijay Kumar, Managing Director, Swan Environmental Pvt. Ltd.

4. **Discussions**

4.1 **Dr Kapil Kumar Narula**, Executive Director and CEO, CII-Water Institute moderating the session echoed for restoring, protecting and preserving the quantity and quality of water in the rivers for future generations.

4.2 **Mr Brijendra Swaroop**, Executive Director (Projects), National Mission for Clean Ganga provided a snapshot of the Namami Gange program, emphasizing the program's accomplishments, goals, and opportunities for private-sector collaboration. He acknowledged the National Mission for Clean Ganga (NMCG) as a unique entity combining regulatory and facilitative roles under the Environment Protection Act. As the anthropogenic pressure on river Ganga is huge (estimated at 60000-70000 per kilometre for the basin) the regeneration of the same is imperative. Recognized globally as one of the top 10 river restoration projects by the UN, the initiative focuses on pollution control, ecological flow, community participation, knowledge management and socio-economic enhancement under its five verticals- Nirmal Ganga, Aviral Ganga, Jan Ganga, Gyan Gang and Arth Ganga respectively. He detailed 465 projects worth ₹38,698 crores, including advancements in sewage treatment capacity and pollution abatement. He underscored innovative models like the Hybrid Annuity Model (HAM) and "One City, One Operator," enhancing efficiency and private-sector involvement. Opportunities for industries include wastewater reuse, renewable energy adoption, and revenue from biogas and carbon credits. Namami Gange's holistic and sustainable approach could serve as a blueprint for future river basin management.

4.3 **Mr Pravin K** Mutiyar, Director (Technical), National Mission for Clean Ganga, emphasized sustainable sewage and industrial waste management while highlighting energy-efficient solutions in wastewater treatment. Key initiatives include utilizing biogas from sludge, solar energy and treated wastewater reuse. For domestic sewage control, innovative approaches such as Food Chain Reactors, Electrocoagulation, Constructed Wetlands, Soil Biotechnology, Green STPs with onsite solar plants, and Packaged Sewage Treatment Plants were discussed. Monitoring under the Namami Gange Programme (NGP) has been significantly enhanced with the Prayas Portal, which integrates real-time effluent data. These combined efforts have resulted in notable achievements, including improved water quality in the Ganga (with no stretches in Priority I to IV pollution categories as of 2023), increased biodiversity (notably the growth in the population of Gangetic dolphins), and enhanced ecological health.

4.4 **Mr Sumouleendra Ghosh**, Partner and Global Water Lead, KPMG dealt with the challenges and achievements in the country's wastewater sector, contextualizing within the broader framework of environmental sustainability. The major challenges include- low prioritization of wastewater management, uncoordinated program efforts, funding deficits, and a historical focus on asset creation rather than performance and maintenance. Looking forward, Mr. Ghosh proposed emphasizing wastewater reuse, creating procurement and trading systems, mandating reuse in water-intensive industries, and implementing wastewater certificate trading. He stressed digitization, green financing, and volumetric tariffs to ensure sustainable management. He also endorsed a circular economy approach to maximize resource recovery, including energy extraction and advanced monitoring for compliance and efficiency

4.5 **Mr BK Agrawal**, President (Corporate), Triveni Engineering and Industries Ltd attributed to the lack of data which not only hampers the preparation of a robust and well-formulated Detailed Project Report (DPR) but also the process impairs long-term public infrastructure

planning. Inefficiencies in tendering processes, inconsistent involvement of local bodies in projects, centralization of decision making and inequitable resource distribution are symptomatic of a wider malaise. He called for quality assurance in sewage generation metrics, better enforcement in contracts, and uniform criteria for evaluating proposals, noting disparities in costs and standards across regions. It is high time to create a framework incentivizing local authorities and operators to collaborate effectively, with mechanisms like carbon credits as models.

4.6 Mr Vijay Kumar, Managing Director, Swan Environmental Pvt. Ltd pitched for monitoring organic load, and emerging pollutants for ensuring improvement in water quality. He gave a snapshot of Total organic carbon (TOC) an analytical parameter for monitoring water quality with enhanced efficacy compared to traditional parameters - BOD/COD. Globally TOC is recommended for measuring organic load in wastewater and monitoring treatment plant performance.TOC analysis is cost-effective, aligns with regulatory compliance, optimizes water quality processes and asset protection through continuous monitoring.

Session 3: Leader's Vision on Viksit Bharat 2047@Water

1. **Objective:** To highlight valuable perspectives of Industry leaders on the sustainable practices adopted by companies to ensure long-term water security and efficient water management as a part of their vision for a water-secure future as part of Viksit Bharat 2047

(L-R) ***Mr K Sri Harsha****, Founder, Kritsnam Technologies,* ***Mr Navdeep Singh Mehram****, Vice President – CSR & Sustainability – Diageo India,* ***Mr Manish Gandhi****, Senior Vice President, Ion Exchange India Ltd,* ***Mr Agam Mathur,*** *Rtd. Chief Engineer, PHED Rajasthan, Mishra* ***Mr Avinash Mishra,*** *Senior Advisor, CII Triveni Water Institute & Former Advisor, NITI Aayog, Mr. Atin Dey, Associate VP (Tech. Services), Electrosteel Castings Ltd, Mr. KVSN Raju, Mr. Sanjeev Dhar, Corporate Regional Head, Thermax Limited*

2. **Moderator**

   Mr Avinash Mishra, Senior Advisor, CII Triveni Water Institute & Former Advisor, NITI Aayog

3. **Presentation by Mr Agam Mathur, Rtd. Chief Engineer, PHED Rajasthan**

4. **Speakers**

   - **Mr Atin Dey,** Associate VP (Tech. Services), Electrosteel Castings Ltd.
   - **Mr Manish Gandhi**, Senior Vice President, Ion Exchange India Ltd.
   - **Mr Sanjeev Dhar,** Corporate Regional Head, Thermax Limited
   - **Mr KVSN Raju**, President, ELICO Ltd.
   - **Mr K Ganesh,** Director-Sustainability & Corporate Affairs, Bisleri International
   - **Mr K Sri Harsha**, Founder, Kritsnam Technologies
   - **Mr Navdeep Singh Mehram**, Vice President – CSR & Sustainability – Diageo India

5. Discussions

5.1 Mr. Avinash Mishra emphasized the critical role of water in economic development, stressing the need for efficient consumption, measurement, and technological innovation. He discussed challenges like access to clean drinking water and the adverse impact of pollution on India's agricultural sector, to stay on track towards achieving 'Viksit Bharat'. Mr. Mishra advocated for improving water conservation practices to mitigate the growing impact of water scarcity and climate change.

5.2 Mr. Agam Mathur, discussed the challenges and solutions for improving safe drinking water access in India underlining that safe drinking water is a fundamental human right and essential for development.
He highlighted the need for infrastructure upgrades, efficient water distribution, and pricing reforms. He proposed transitioning to per capita water tariffs to control consumption, improve operational efficiency, and depoliticize tariff issues. He also stressed the importance of proper technical training, financial management, and modernized systems for continuous, 24/7 water supply. Mr Mathur also advocated for a state-level bulk water company and efficient water retailing to ensure equitable and sustainable water distribution, with subsidies targeted at those in need. He concluded that overcoming institutional, technical, and political barriers is key to achieving long-term water sustainability.

5.3 Mr. Atin Dey shared Electrosteel's efforts to reduce water consumption and the company's vision for water management to support the "Viksit Bharat" mission. Mr Dey emphasized that the ductile iron (DI) pipes are leak-proof and durable, tested rigorously at high pressure. With over 15,000 projects implemented in India, Electrosteel has demonstrated the effectiveness of DI pipes in minimizing water loss and ensuring long-term infrastructure stability, despite higher initial costs compared to alternatives.

On sustainability, the company has achieved 97% water efficiency in its manufacturing processes and is progressing towards water neutrality, shared Mr Dey. One of the pioneers of wastewater recycling, the company laid a 21-kilometre pipeline (now upgraded to 500mm diameter) to transport and treat greywater from Tirupati Corporation for its Kalahasti plant in 2008. All these practices showcase the company's efforts to align with broader goals of reducing environmental impact while maintaining high-quality production standards for ensuring more efficient and sustainable use of resources in the industry, stressed Mr Dey

5.4 Mr. Manish Gandhi, discussed the significant challenges India faces regarding water security, emphasizing the depletion of groundwater resources. He stressed the importance of managing water resources effectively to achieve the goal of 'Atmanirbhar Bharat'. He emphasized the potential of advanced water treatment technologies, such as reverse osmosis and wastewater recycling, to address these issues. Mr Gandhi highlighted that sewage is a readily available and treatable resource, that offers immense potential for industrial use and secondary applications like gardening, flushing etc. Municipalities must expand sewage treatment capacity to address growing urban populations, ensuring that treated water can replace freshwater sources.
He stressed that a coordinated, technology-driven approach can conserve freshwater resources and meet future challenges, ensuring sustainable growth by 2047 and beyond. He urged collaboration among industries, government bodies, and other stakeholders to

develop and implement solutions that conserve and restore freshwater resources, ensuring long-term water security and sustainable industrial growth.

5.5 Mr. Sanjeev Dhar discussed the company's contributions to water and wastewater treatment in India and highlighted Thermax's commitment to future-ready systems, designing water treatment solutions that meet even more stringent norms than current guidelines, and ensuring preparedness for upcoming challenges.

Mr. Dhar emphasized the company's role in minimizing energy consumption in wastewater treatment, particularly through their Zero Liquid Discharge systems, which do not require steam. In line with India's digital transformation, Thermax integrates advanced digital monitoring solutions for real-time efficiency tracking and corrective actions. Recognizing challenges like high CapEx costs, he emphasizes optimized designs to lower both capital and operational expenses.
The company has developed robust in-house engineering capabilities and works closely with industries and the government to develop innovative and sustainable systems, preparing the nation to address evolving water management challenges.

5.6 Mr. KVSN Raju, stressed the need to improve water quality and emphasized that while providing water quantity is important, ensuring water quality is equally crucial.

Mr Raju shared that ELICO, with over seven decades of expertise in instrumentation, has been focusing on developing innovative, accessible, modular, and scalable solutions to enhance water quality monitoring for various sectors to support India's vision of a "Viksit Bharat." ELICO has created various water quality testing products that can be deployed in remote as well as urban areas. ELICO's solutions enable on-site testing and reliable, repeatable results that aid decision-making. By ensuring consistent water quality monitoring, these innovations contribute to sustainability goals, improving both water access and public health and helping reduce waterborne illnesses and their associated impacts on the population.

5.7 Mr. K. Ganesh shared that Bisleri International has been prioritizing water conservation and sustainability, as water remains its primary raw material. The company has focused on optimizing water use for over five decades and has adopted innovative practices to ensure clean, safe drinking water while conserving water resources. Bisleri employs a 10-stage purification process and conducts 114 quality tests, adhering to regulatory standards set by BIS and FSSAI.

Within its plants, Bisleri uses advanced metering systems, piezometers, and multi-stage RO systems to optimize water usage, achieving 90% recovery efficiency. Rainwater harvesting, STP installations, and recharging local aquifers further enhance its water stewardship. Beyond the plants, Bisleri has restored 281 check dams, reservoirs, and ponds, achieving water-positive status for six years. Through partnerships with TERI-SAS, Bisleri has expanded its conservation efforts, addressing water use across its supply chain. All these efforts have helped company ensure high-quality, sustainable water practices.

5.8 Mr K Sri Harsha highlighted the critical importance of water measurement for effective management. He shared insights from one of India's largest groundwater metering networks, which tracks nearly 1 billion liters of water daily. Many businesses, he noted, significantly underestimate their water usage. This gap in understanding, he explained, is largely due to a

lack of awareness among top management, compounded by low water costs and insufficient regulation. As water prices rise and regulations tighten, businesses must adopt smarter water management practices. Harsha advocates for the use of daily water balance systems, which involve installing flow meters at key points in facilities. This data, when analyzed, provides actionable insights that help companies move toward water neutrality and more efficient resource use.

5.9 Mr Navdeep Singh Mehram emphasized the importance of three key aspects for successful water stewardship: commitment, action, and governance. He outlined his company's commitment to water preservation, aiming to reduce water consumption by 40% per litre of product by 2030. Additionally, they strive to replenish more water than they consume in local communities, with some plants already exceeding their targets. On the action front, Mr.Mehram highlighted their progress in achieving water efficiency and replenishment goals, particularly in the Godavari River basin, where they have initiated collective action with local stakeholders, including government bodies and private companies. Lastly, he stressed the importance of governance—ensuring that water conservation efforts should be a central topic in boardroom discussions and need to be monitored regularly.

Session 4: Water Conservation: Good Practices

1. **Objective:**

   The session showcased successful case studies of collaborative models in water conservation, management, and water use efficiency by industries that are sustainable and scalable to address water stress challenges.

(L-R) **Mr Jagjit Singh Kochar,** Managing Director, Nanobubbles Tech Private Limited, **Mr Sankaranarayanan Jawahar** - Voltas Limited- A Tata Enterprise, **Mr Rakesh Kumar Verma,** Additional Secretary Ministry of Jal Shakti Government of India, **Dr Abhishek Lakhtakia,** CEO Adani Foundation, **Mr Apoorva Oza**, Global Programme Lead, Aga Khan Foundation, **Mr. Turbaashu Bhattacharya**, Roserve India Pvt Limited

2. **Moderator**

   - **Dr Abhishek Lakhtakia,** CEO, Adani Foundation

     Dr Abhishek Lakhtakia shared Adani Foundation's initiatives in creating sustainable water solutions such as creating water storage structures, implementing drip irrigation, and promoting sustainable agricultural practices such as direct seeding of rice (DSR) that have positively impacted over 9 million people. Dr Lakhtakia also shared success stories of community engagement, such as empowering individuals in rural areas to lead water conservation projects, thereby ensuring water availability for domestic, livestock, and agricultural purposes. A compendium documenting their journey was also introduced.

3. **Keynote Address by the Guest of Honour-** Mr Rakesh Kumar Verma, Additional Secretary, Ministry of Jal Shakti, Government of India

Mr Rakesh Kumar Verma pointed India's growing challenge of water stress, driven by population growth, urbanization, rising demands from energy, industry, and agriculture, compounded by climate change's impact on water availability. Highlighting the finite and vulnerable nature of water, he noted that India is among the world's top water users, with significant groundwater dependence exceeding China and the United States combined.

To address water scarcity, the Ministry of Jal Shakti has launched programs including the Jal Shakti Abhiyan (2019), which includes interventions such as borewell recharging, afforestation, watershed improvement, and rainwater collection. Additionally, initiatives are underway to increase agricultural water efficiency, such as encouraging micro-irrigation and updating command areas to allow for canal-based irrigation through pressurized pipelines.

Mr Verma advocated for industries to adopt water-efficient technologies, recycle wastewater, and use treated municipal water. He stressed the need for industries to monitor water efficiency within defined catchment areas and adhere to benchmarks. Advancements in science and technology were highlighted as critical for sustainable water management, emphasizing innovations that are cost-effective, energy-efficient, and environmentally friendly.

4. Speakers

- **Mr Apoorva Oza**, Global Programme Lead, Aga Khan Foundation
- **Mr Turbaashu Bhattacharya**, Roserve India Pvt Limited
- **Mr Sankaranarayanan Jawahar** - Voltas Limited- A Tata Enterprise
- **Mr Jagjit Singh Kochar,** Managing Director, Nanobubbles Tech Private Limited

5. Discussions

5.1 Mr Apoorva Oza underscored the vital role of water in shaping rural India’s socioeconomic landscape, calling it a determinant of both prosperity and poverty. He highlighted water's influence on livelihoods, domestic needs, and ecological preservation. Sharing AKRSP’s successes, he emphasized partnerships with governments and private entities, citing the revival of a river in Junagadh, Gujarat, which enhanced sustainable water management and agricultural incomes. He advocated for the watershed approach, integrating conservation, afforestation, and water harvesting to promote sustainable agriculture and resource use. Concluding, Mr Oza stressed integrated water budgeting and balancing supply-side solutions with demand-side strategies for long-term sustainability.

5.2 Mr Turbaashu Bhattacharya, discussed their "Wastewater as a Service" (WWaaS) model, focusing on solutions for wastewater management challenges faced by industries, particularly MSMEs. He highlighted the use of modular systems such as thermal evaporators, anaerobic digesters, and high-pressure reverse osmosis to address issues like high evaporation costs, reject management, and compliance with discharge regulations. Developed through a joint venture with the Danish Climate Investment Fund, these systems integrate renewable energy sources and innovative recycling technologies like Zero Liquid

Discharge (ZLD). The approach emphasizes cost efficiency and environmental compliance, recycling 10,000 kilolitres of water daily.

5.3 Mr. Sankaranarayanan Jawahar highlighted sustainable water usage in the pulp and paper industry, emphasizing Voltas' efforts in water management across key sectors. At Tamil Nadu Newsprint and Papers Limited (TNPL), Voltas installed an effluent treatment plant to recycle water for plantation irrigation, reducing dependency on the Cauvery River. In Mysore's Security Paper Mill, they implemented a zero-liquid discharge system using advanced techniques like reverse osmosis and ultrafiltration, repurposing recovered water for operations. Voltas also contributed to the Namami Ganga Project by installing sewage treatment plants in Bihar using SBR technology, converting sludge into organic fertilizer. Their initiatives integrate water recycling, energy-efficient technologies, and solar power, reflecting a commitment to sustainable water resource management.

5.4 Mr Jagjit Singh Kochar presented Nanobubble Tech Pvt. Ltd.'s innovative nanobubble technology, developed over six years with Professor Rakesh Govind of the University of Cincinnati. The technology generates ultra-small bubbles (under 200 nanometers) that persist in water, increasing dissolved oxygen levels and enabling advanced oxidation processes without chlorination. This approach reduces sludge formation and chemical usage, allowing treated water to be reused for agriculture and other purposes. He showcased its application in sectors like tanneries, textiles, and reservoirs, supported by case studies. Approved by institutions like IIT Ropar and Punjab Pollution Control Board, the technology offers a sustainable solution for water treatment and reuse.

Day 2: 13th November 2024 (Hotel The LaLit)

Session 1: Industrial Blue Rating System

1 **Objective:** Leverage the CII's Blue Rating System to promote & champion water conservation and efficient resource use to enhance industry competitiveness, raise awareness and build capacities for monitoring and measuring progress on the waterfront.

(L-R) **Ms. Shilpa Nischal**, Principal Counselor, CII-Water Institute; **Dr Kapil Kumar Narula**, Executive Director and CEO, CII-Water Institute

2. Opening Remarks by **Dr Kapil Kumar Narula**, Executive Director and CEO, CII-Water Institute

Dr Kapil Kumar Narula, Executive Director and CEO, CII-Water Institute gave a brief account of the Blue Rating System (BRS), developed by CII-WI, which is a comprehensive, performance cum system-based assessor-driven evaluation tool that rates industry on over 80 indicators related to water management. BRS prepares the industry for national and international disclosure standards while identifying gaps across – operation. Watershed health and supply chain engagement. The BRS builds on the available knowledge and existing water related tools and resources to guide companies with a rigorous understanding of water related threats and opportunities in their operations perceived from both within and beyond their fence (i.e. addressing real and virtual water).

3. Presentation by **Ms Shilpa Nischal,** Principal Counselor, CII-Water Institute

Ms Shilpa Nischal, Principal Counselor, CII-Water Institute highlighted the importance of BRS – provides 360° view of water (Within the fence, beyond the fence and virtual water); Enhanced visibility and reputation; establishes granular baselines; and ensures transparency & communication. Measurement, monitoring, comparison, certification and recognition guide the performance of the industry's water management. Data collection, data validation, diagnostic analysis, assessment report, implementation and optimization, are the critical elements of BRS. Based on the feedback received from the piloting across industry the final version of the Blue Rating System was launched which is currently rating

the industry in charting the path of water sustainability

4. Interaction

4.1 Standards for the textile industry: **BRS** for a textile industry evaluates indicators like water consumption, recycling, source diversification, and operational performance. This enables comparison with other textile industries by standardizing metrics across the sector. However, developing meaningful benchmarking requires a critical mass of textile industries to ensure robust data and actionable insights.

4.2 Integration with other industry disclosures: The Blue Rating System (BRS) can integrate with certifications like Alliance for Water Stewardship. Any minor gaps will be addressed as the system evolves, ensuring comprehensive compatibility. The primary intent is collaborative progress—raising industry standards, enhancing preparedness, and fostering competitiveness rather than creating standalone services. The goal is to support industries in adopting robust water stewardship practices while aligning with established global benchmarks to achieve meaningful impact.

4.3 Global recognition -BRS: BRS aims to enhance global recognition by aligning with international benchmarks and indicators from organizations like the US EPA and GIZ. This alignment ensures readiness for export-driven specifications and strengthens competitiveness. BRS supports seamless compliance with multiple certifications, enabling industries to meet global expectations without duplicating efforts. The system evolves through collaboration, ensuring consistency, adaptability, and progress toward global recognition goals.

4.4 Feasibility of BRS in different geographical locations viz saline areas: BRS accounts for salinity zones by assessing the ecosystem and resource management practices of plants located in specific geographical locations. It captures the salinity-specific conditions within its "beyond the fence" and watershed components, evaluating the health of ecosystems and industries' efforts to manage resources in these zones. The system accommodates diverse ecosystems, including saline and freshwater, ensuring tailored recommendations. For plants utilizing seawater and desalination as a diversification strategy, it provides positive credits as per central groundwater guidelines. This comprehensive approach enables industries in saline zones to effectively benchmark and improve their water resource management.

4.5 Validity of BRS: BRS is valid across all sectors covering both manufacturing & service industry. The rating is valid for a period of two years and at the end of 2 years the company must apply for re-certification.

5.

Session 2: Good Practices in Water Management

1. **Objective: in 20 to 40 words**

(L-R) **Prof AK Keshari, Member of Jury,** CII National Awards for Excellence in Water Management, Dept. of Civil Engg., IIT Delhi**; Mr Sushil Gupta,** Member of Jury, CII National Awards for Excellence in Water Management & Former Chairman, CGWA; **Dr B Sengupta,** Member of Jury**,** CII National Awards for Excellence in Water **Management & Former Member Secretary, CPCB; Mr Pinaki Bhadury,** Member of Jury, CII National Awards for Excellence in Water Management

1. **Moderator**

- **Mr Sushil Gupta,** Member of Jury, CII National Awards for Excellence in Water Management & Former Chairman, CGWA

2. **Remarks by Jury Members**

- **Dr B Sengupta,** Member of Jury**,** CII National Awards for Excellence in Water **Management & Former Member Secretary, CPCB**
- **Prof AK Keshari, Member of Jury, CII National Awards for Excellence in Water Management, Dept. of Civil Engg., IIT Delhi**
- **Mr Pinaki Bhadury, Member of Jury, CII National Awards for Excellence in Water Management**

3. **Discussions**

3.1 Mr Sushil Gupta, Member of Jury, CII National Awards for Excellence in Water Management & Former Chairman, CGWA

Mr Gupta Stressed that the growing population and increasing resource demands highlight the urgent need to focus on water efficiency rather than solely seeking new resources, as water is a finite commodity. He emphasized adoption of sustainable approaches, such as water neutrality and blue rating systems, to use less water per capita in industrial, domestic, and operational activities.

Pointing to the water use efficiency in agriculture, which consumes nearly 85% of India's water and irrigation efficiency ranges from 30-60%, he stressed that even modest improvements could meet the country's drinking water needs. He advocated the adoption of Innovative mechanisms like water credits, as introduced in Punjab, which offer rebates on groundwater extraction charges, encouraging industries to conserve water both within and outside their premises can be considered to promote water conservation. Expanding these systems through agreements between industries, farmers, and water authorities could improve irrigation efficiency and offset industrial water usage. Additionally, exploring the trading of water certificates, as seen in countries like the U.S., could incentivize conservation and foster a sustainable water economy. This comprehensive approach calls for collaboration and innovative thinking to formalize strategies that ensure long-term water efficiency and availability.

3.3 **Dr B Sengupta,** Member of Jury**,** CII National Awards for Excellence in Water Management & Former Member Secretary, CPCB

Dr. B. Sengupta highlighted several critical issues regarding water pollution and management in India. He emphasized that while the agriculture sector consumes 80% of water, its efficiency is only around 38-40%. Improving this could lead to significant water savings. In contrast, the industrial and power sectors, which use just 8-10% of water, already exhibit high water use efficiency (94%), with minimal potential for further improvement.

Dr. Sengupta flagged several key challenges, including the under-treatment and poor reuse of sewage, which contributes to water pollution. He pointed out that only 45-48% of sewage is treated in India, and strict effluent standards are often unmet due to the lack of effective reuse systems. Non-point sources of pollution, particularly agricultural runoff and pesticides are significant contributors to river contamination, with pesticides like those in the Ganga basin posing a serious concern.

He also discussed the complexities around Zero Liquid Discharge (ZLD) systems, advocating for industry-specific approaches rather than blanket ZLD mandates. Furthermore, he stressed the need for mandatory audits of water recycling and reuse, as well as enhanced monitoring and verification of pollution control systems.

Dr. Sengupta called for a phased approach to pollution control, focusing on the most polluting industries first, and recommended using treated sewage and industrial wastewater as process water to help mitigate water scarcity.

3.4 Prof AK Keshari, Member of Jury, CII National Awards for Excellence in Water Management, Dept. of Civil Engg., IIT Delhi

Prof. A.K. Keshari, emphasized significant progress in industrial water management over time, praising industries for their improved performance and commitment. Prof. Keshari urged industries to increase R&D efforts, particularly in collaboration with academia, to foster

innovations that can be commercialized. He recommended creating a centralized data repository for industry water management metrics, similar to initiatives in Europe and the U.S., to facilitate research and societal benefits. He praised the Blue Rating System as a notable step in the right direction. He encouraged industries to keep improving their water management practices, emphasizing the importance of collaboration for the collective advancement of water security in India.

3.5 Mr Pinaki Bhadury, Member of Jury, CII National Awards for Excellence in Water Management

Dr. Pinaki Bhaduri sharing his insights and observations as a jury member for the 18th Water Awar praised the significant improvements made in the award's review process over the years, He expressed appreciation for the continued efforts of companies, especially those working beyond the fence, where barren lands have been converted into fertile areas. He pointed out that such efforts are localized and need to spread to more water-stressed regions.

In his observations on water usage within the fence, Dr. Bhaduri commended industries for surpassing the Ministry of Water's benchmarks for specific water consumption, particularly in the power sector. He highlighted the continued progress in reducing water consumption, though he pointed out the need for innovation in water treatment processes. He stressed on more application for truly innovative projects, stressing that many applications were based on existing solutions rather than new approaches.

He also discussed concerns about Zero Liquid Discharge (ZLD) systems, pointing out their high costs and the environmental impact of discarded reverse osmosis (RO) membranes. He suggested that industries should explore alternative technologies like a combination of reverse osmosis and forward osmosis or more sustainable membrane options.

Dr. Bhaduri emphasized the importance of water and wastewater engineering education in India, noting the lack of formal academic qualifications in these fields.

He encouraged industry professionals to push for innovative solutions and focus on reducing both water and energy consumption in water treatment processes. Furthermore, he highlighted the concept of Minimum Liquid Discharge (MLD) as a more sustainable alternative to ZLD, aligning with the principle of returning the same quality and quantity of water to nature.
Lastly, he raised concerns about the environmental implications of artificial intelligence and machine learning (AI/ML), which consume large amounts of power and require extensive cooling, further adding to the carbon footprint.

Success stories from

- **Mr Jitendra J Chaudhari,** General Manager - ETP, Arvind Limited
- **Mr Dillip Swain,** AGM-Operation, MA-WEMS, GMR Kamalanga Energy Ltd
- **Mr Amit Doshi,** Founder, Neerain India Private Limited
- **Mr Murali Ravi Shankar Bodda,** Manager, GMR Warora Energy Ltd
- **Mr Pradeep Kumar Singh,** AVP – Environment, Health & Safety, Lalitpur Power Generation Company Ltd

- **Mr Manjunath Lakshmikanthan,** Sr. Regional Manager, ITC Social Investments Programme, ITC Limited
- **Mr Vivek Rajput,** Manager, Welspun Living Limited
- **Mr Ravinderjit Singh,** Head –Rural Transformation, Reliance Foundation

4. Discussions

4.1 Mr. Jitendra J. Chaudhari, General Manager - ETP at Arvind Limited, speaking on Arvind's extensive water management innovations shared that key interventions include utilizing treated sewage water from local communities for textile processes, achieving zero liquid discharge, and reusing recovered salt in dyeing operations. Arvind's textile units are India's most energy-efficient, with a 20% reduction in energy consumption over four years. They also employ a four-stage RO system, ultra-high-pressure MRE, and SCADA for real-time water monitoring. The company uses rainwater harvesting for groundwater recharge, stores 14,000 cubic meters of rainwater, and promotes organic cotton farming. These efforts save over 11,000 MLD of groundwater annually, with a focus on optimizing effluent treatment, minimizing high landfill costs, and reducing operational expenses.

4.2 Mr. Dillip Swain, AGM-Operations at MA-WEMS, GMR Kamalanga Energy Ltd, detailed the company's strides in water efficiency at its 3×350 MW power plant in Odisha. The unit draws water from the Brahmani River and uses innovative strategies like rainwater harvesting, water reuse, and process optimization for water management within the plant. Other key initiatives include replacing cooling water systems in boilers, reducing drift losses in cooling towers, implementing SCADA-based water monitoring, and minimizing leaks. These measures have reduced specific water consumption from 2.6 to 2.1 m^3/MWh since 2019. Recycled water now constitutes a significant portion of usage, and real-time monitoring ensures sustainable operations. Looking ahead, the plant aims to integrate digital and cloud-based water management systems for enhanced efficiency and resource conservation.

4.3 Mr. Amit Doshi, Founder of Niren India Private Limited, highlighting that the nation receives 4,000 billion cubic meters of rainfall annually, he emphasized the critical need for decentralized rainwater harvesting to address India's water crisis. He briefed about Niren's innovative rooftop rainwater filter enables effective groundwater recharge and storage, empowering individuals and institutions to contribute to water security. Mr. Doshi advocated for grassroots-level action, urging the integration of rainwater harvesting in all new constructions to ensure a sustainable and water-positive future.

4.4 Mr. Murli Ravi Shankar from GMR Warora Energy Limited, highlighted their integrated watershed management initiative in the Majra micro-watershed, spanning 274 hectares in Chandrapur, Maharashtra. GMR's approach, rooted in sustainable practices, includes water conservation, soil erosion prevention, and community empowerment. Key measures include deepening tanks , drainage line treatments, horticultural plantations, and promoting advanced agricultural techniques. Through partnerships with NABARD and Symbiosis University, they implemented capacity-building and impact assessments. Community-focused efforts include sanitation programs, ODF initiatives, and mobile

medical units, improving irrigation, crop yields, and livelihoods. Their structured project management approach ensures scalability, achieving significant water table restoration, agricultural productivity, and economic upliftment, aligning CSR with stakeholder value creation.

4.5 Mr. Pradeep Kumar Singh from Lalitpur Power Generation shared innovative water conservation practices implemented within their thermal power plant. Key measures include optimizing water consumption by increasing the Cooling Tower Cycles of Concentration (COC) and achieving a 40% reduction in freshwater use. They transitioned to closed pipeline systems for water transport, minimizing evaporation losses, and implemented dry fly ash disposal to conserve water and reduce environmental impact. They also reused treated wastewater for horticulture and dust suppression, and rainwater harvesting, with 24 pits on-site, to enhance groundwater recharge. Notably, their specific water consumption is 2.07 m^3/MW, significantly below regulatory thresholds, demonstrating their commitment to sustainable operations.

4.6 Mr Manjunath Lakshmikanthan, Sr. Regional Manager, ITC Social Investments Programme, ITC Limited ITC's PSPD unit in Coimbatore, located in a water-stressed region, has implemented impactful water management interventions aligned with its triple-bottom-line approach. The unit's water stewardship program, active since 2016, adopts a river basin strategy to address both supply and demand challenges. ITC has constructed over 900 water harvesting structures and introduced borewell recharge technologies to enhance groundwater levels. On the demand side, ITC collaborates with NGOs and TN Agricultural University to train farmers in water-efficient practices. These efforts have increased agricultural productivity, extended water availability, and improved groundwater levels. Recognized as a pioneer, the unit became India's first AWS Platinum-certified site, influencing ITC's replication across nine other water-stressed locations.

4.7 Mr Vivek Rajput, Manager, Welspun Living Limited Welspun's water management, initiatives in the arid region of Kutch and has a focus on achieving 100% sustainability. Key interventions include a 30 MLD sewage treatment plant (STP) established in collaboration with Gandhidham and Anjar municipalities, treating and recycling 85% of sewage water for manufacturing processes. The company has also laid a 35–40 km sewage collection network. Advanced technologies like automated dye dosing and counter-current washing reduce water consumption by 5–10%. Welspun has built rainwater harvesting lagoons with a combined capacity of 300 crore litres for backup. Additionally, dried effluent treatment plant (ETP) sludge is used as fuel, achieving zero landfill certification and compliance with sustainable manufacturing practices.

4.8 Mr Ravinderjit Singh, Head –Rural Transformation, Reliance Foundation shared the Foundation's efforts in Seoni, Madhya Pradesh, focusing on empowering communities and ensuring sustainable rural transformation. They address challenges like low rainfall, undulating terrain, and low crop productivity through participatory planning and innovative, context-specific solutions. Key interventions include water harvesting structures such as check dams, farm ponds, and gated bunds, augmenting water storage, and boosting irrigation. The foundation promotes climate-smart agriculture, horticulture, and allied activities like dairy, poultry, and fisheries to diversify incomes. By building

leadership and forming water user groups, Reliance Foundation ensures sustainability, enabling villages to manage resources and drive development independently.

Special Plenary: CII National Awards for Excellence in Water Management

(L-R) **Dr B Sengupta,** Member of Jury**,** CII National Awards for Excellence in Water Management & Former Member Secretary, CPCB; **Mr Sushil Gupta,** Member of Jury, CII National Awards for Excellence in Water Management & Former Chairman, CGWA; **Mr Nikhil Sawhney,** Chairman, CII-Triveni Water Institute & Vice Chairman & Managing Director, Triveni Turbine Ltd; **Prof AK Keshari, Member of Jury,** CII National Awards for Excellence in Water Management, Dept. of Civil Engg., IIT Delhi**; Mr Pinaki Bhadury,** Member of Jury, CII National Awards for Excellence in Water Management; **Dr Kapil K Narula,** Executive Director & CEO, CII-Triveni Water Institute

1. **Introductory RemarkDr Kapil K Narula, Executive Director & CEO, CII-Triveni Water Institute**

Dr Kapil Narula Shared that CII Triveni Water Institute strives to transform water conservation and management in India by bringing a positive change in the mindset and behaviour of stakeholders. CII National Awards for Excellence in Water Management have been strengthening this goal, by recognizing exemplary efforts of Indian industry for their contributions in making a water-secure world through their operations, innovations and CSR activities.

Dr Narula applauded the jury for their dedication, emphasizing their role in upholding the credibility and transparency of the awards through objective metrics aligned with national and international standards. He highlighted the industry's proactive measures in water conservation, resource efficiency, and sustainability, moving beyond compliance. Resilience in resource use, especially water, is crucial for communities and businesses.

Special Address, Mr Nikhil Sawhney, Chairman, CII-Triveni Water Institute & Vice Chairman & Managing Director, Triveni Turbine Ltd.

Mr. Nikhil Sahni, emphasized the importance of recognizing industry efforts through the CII National Awards for Excellence in Water Management. He applauded the jury for their rigorous evaluation process, ensuring transparency and credibility. The awards honor industries for advancing sustainable water management, setting benchmarks aligned with national and international standards. Mr Sahni highlighted India's progress in proactive water resource conservation, operational efficiency, and innovative practices, inspiring global recognition. He encouraged industries to sustain resilient water management efforts, benefiting communities and watersheds. The awards foster knowledge-sharing and motivate stakeholders to adopt and scale sustainable practices.

2. Address by the Chief Guest Mr Ashok K K Meena, Secretary, Department of Drinking Water & Sanitation, Ministry of Jal Shakti, Government of India

Mr Meena emphasized the transformative impact of the Jal Jeevan Mission with a goal of achieving 100% coverage of rural household tap connections, which has increased from 17% since inception to 79% as of date. He highlighted the mission's focus on providing a defined quality and quantity of water to every household, stressing the need for efficient water management at the village level.

Mr Meena further shared that as water access expands, the need for efficient management of water at the village level will become critical, necessitating the emergence of micro water utilities. Over 5.5 lakh micro water utilities are expected to come into play in the O&M phase of the Jagjivan mission, said Mr Meena. These micro-water utilities will play a critical role in maintaining service standards, quality, and the entire water cycle, including managing greywater, to support sustainable practices.

Mr. Meena stressed the need for innovative, cost-effective, and localized solutions for water conservation, quality maintenance, and greywater management. He commended the CII National Awards for Excellence in Water Management for identifying industry champions whose innovative solutions and benchmarks can inspire rural water management practices. He further added that the learning from the exemplary efforts of award winners would help in fostering sustainable water management practices that align with India’s unique needs, fostering employment and innovation in the water sector.

3. Distribution of CII National Awards for Excellence in Water Management & Blue Rating Awards by the Dignitaries

CII for over a decade has been recognizing industries for their contributions in making a Water Secure country - be it through their operations, innovations, or CSR activities. This year CII conferred its 18th CII National Awards for Excellence in Water Management to industries from varied sectors for their initiatives in embarking on holistic management of water resources.

Over the years, these awards have evolved into a multistage process led by an eminent jury. This year, 18 companies were awarded at the CII National Awards for Excellence in Water Management under the categories - “Within the Fence”, “Beyond the Fence” and “Innovative Water Saving Product”. These companies were primarily driven by their respective “Water Policy” which guided them in reinventing their water trajectory.

Recipients of 18th CII National Awards for Excellence in Water Management 2024

5 Industries were felicitated under the **"Beyond the Fence" category**, the awards were conferred to 1) **GMR Warora Energy Limited** for their project **"From Scarcity to Sustainability: Transforming lives through Integrated Watershed Management"** implemented at Warora, Chandrapur, Maharashtra 2) **Hindustan Unilever Foundation** for their project **"District Transformation Model"** implemented in Dharashiv, Maharashtra, 3) **ITC Limited, PSPD, Kovai unit** for their project "Water for All - Today & Tomorrow" implemented in Coimbatore, Tamil Nadu, 4) **Lalitpur Power Generation Company Limited** for their project **"Promoting Sustainable Agriculture and Rural Livelihoods through Participatory Water Resources Development and Management Initiatives"** implemented in Lalitpur, Uttar Pradesh 5) **Reliance Industries Limited** for their project **"Reliance Foundation-Bharat India Jodo Programme"** implemented in Seoni, Madhya Pradesh.

Larsen & Toubro (Urban Water & Water Management Business Unit) was conferred with **Jury Special Award** for its project, **"Pune Smart Water Project"** implemented in Pune, Maharashtra.

15 industrial units were awarded under "**Within the Fence" category**. 1)**Apollo Tyres Limited**, Kancheepuram, Tamil Nadu,2)**Arvind Limited (**Santej-Unit),Kalol , Gandhinagar, Gujarat, 3)**Best Colour Solutions India Private Limited**, Perundurai, Erode, Tamil Nadu, 4)**GMR Kamalanga Energy Limited**, Kamalanga, Dhenkanal, Odisha, 5)**Hindalco Industries Limited (Birla Copper Unit),** Dahej, Bharuch, Gujarat, 6)**Indo Count Industries Limited, Kolhapur,** Maharashtra, 7) **Infosys Limited,** Bengaluru, Karnataka, 8)ITC Limited, Munger, Bihar,9) **NTPC Limited**, Kudgi, Vijayapura, Karnataka,10)**Tata Chemicals Limited**, Mambattu- Nutra, Nellore, Andhra Pradesh,11)The Tata Power Company Limited, Jojobera, Jamshedpur, Jharkhand,12)Varun Beverages Limited, Barauni, Begusarai, Bihar,13)Welspun Living Limited, Anjar, Kutch, Gujarat, 14)Yara Fertilisers India Private Limited, Babrala, Sambhal, Uttar Pradesh, 15)TVS Motor Company Limited, Hosur, Tamil Nadu

Under the “Innovative Water Saving Product” category**, BlueVerse India Private Limited** was felicitated for its innovative product “Vehicle Washing Machine” whereas **Elico Limited** was facilitated for its product ‘Portable Multiparameter Water Quality Analyzer (e-Jal)”

CII Blue Rating Awards were felicitated to companies that were assessed under CII’s Blue rating system that evaluates plant performance across four core themes:
Blue rating system that evaluates plant performance across 4 core themes, 1) enhancing operational water use efficiency, 2) operational water sustainability through watershed approach, 3) virtual water and supply chain and 4) management and leadership and strategy.

“Apraava Wind Energy Pvt. Ltd, Khandke" was conferred with a Platinum award. **"Apraava Energy Pvt. Ltd. (100MW Solar Farm, Veltoor)", "Hero MotoCorp Ltd, Gurgaon" and GMR Warora Energy Ltd, Warora"** were conferred with Gold Award.

Recipients of Blue Rating Awards 2024

10th Water Innovation Summit 2024

12-13 November 2024, New Delhi

Viksit Bharat@2047:
Water Partnerships for
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Some Glimpses

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