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VIKSIT BHARAT 2047

BUILDING A STRONGER, SUSTAINABLE INDIA

INDUSTRY ANALYSIS REPORT

WATER INFRATECH



TOP SME PICK

Enabling Viksit Bharat 2047

"Viksit Bharat 2047 is the big picture. SMEs are the missing piece. Here is one powerful piece - Water Infratech."

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WATER: THE BACKBONE OF INDIA'S GROWTH STORY

Powering Growth. Ensuring Sustainability. Securing Tomorrow.

INDIA'S NEXT STRATEGIC IMPERATIVE

As India advances towards becoming a developed nation, water is emerging as the country's next strategic infrastructure imperative.

Rapid industrialisation, urbanisation, and manufacturing led growth are driving the need for resilient water, wastewater, recycling, and reuse systems.

The sector stands at the heart of India's growth agenda, enabling economic expansion, strengthening resource security, and supporting a sustainable future.

- WATER SUPPLY
- WASTEWATER TREATMENT
- WATER RECYCLING & REUSE
- INDUSTRIAL WATER MANAGEMENT



WHY IT MATTERS

- SUPPORTS ECONOMIC GROWTH
- ENABLES SMART CITIES
- STRENGTHENS SUSTAINABILITY
- ENHANCES WATER SECURITY

ENABLING A SUSTAINABLE & RESILIENT FUTURE

RESILIENT WATER SYSTEMS | EFFICIENT TREATMENT | RECYCLING & REUSE | INDUSTRIAL RESILIENCE | SUSTAINABLE FUTURE

STRONGER WATER SYSTEMS. STRONGER INDIA. STRONGER FUTURE.

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TABLE OF CONTENTS

A clear roadmap to navigate the complete report.

1 EXECUTIVE SUMMARY

2 MARKET SIZE & GROWTH

3 TECHNOLOGY LANDSCAPE

4 GEOGRAPHY ANALYSIS

5 CHALLENGES & PAIN POINTS

6 INDUSTRY OVERVIEW

7 REGULATORY & POLICY LANDSCAPE

8 COMPETITIVE LANDSCAPE

9 INVESTMENT & FUNDING TRENDS

10 OPPORTUNITIES & FUTURE OUTLOOK



ENABLING RESILIENT WATER SYSTEMS.

DRIVING SUSTAINABLE GROWTH.

SECURING A BETTER TOMORROW.

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INTRODUCTION

India's Water Challenge is Creating a Multi-Decade Opportunity

Water scarcity, rising demand, and policy support are accelerating the shift toward water reuse and recycling.

THE CHALLENGE

PER CAPITA WATER AVAILABILITY

1,545 m³

Below water-stress threshold of 1,700 m³

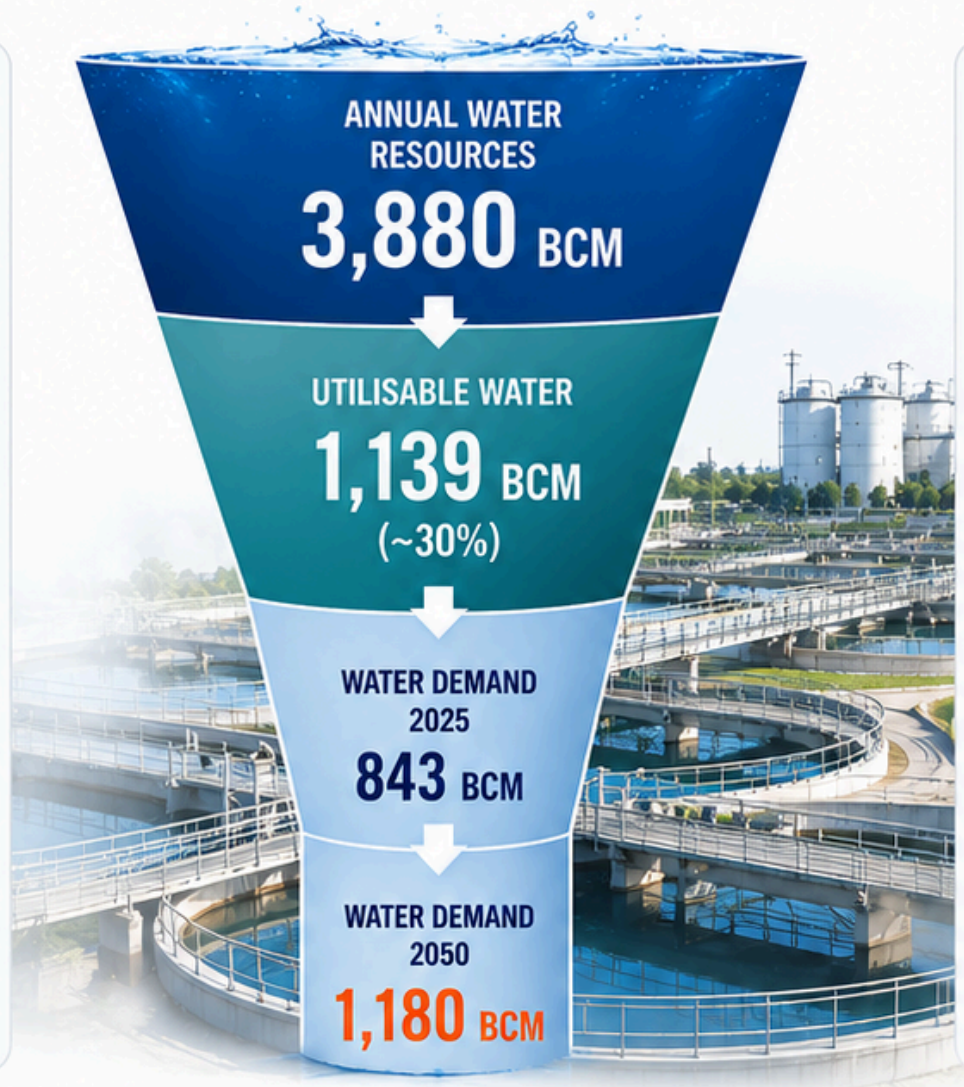
WATER DEMAND RISING

843 BCM → 1,180 BCM

(2025) (2050)

INDUSTRIALISATION & URBANISATION

Accelerating resource pressure



THE OPPORTUNITY

WASTEWATER REUSE

Turning wastewater into a valuable resource

INDUSTRIAL RECYCLING

Power, manufacturing & utilities driving reuse demand

ADVANCED TREATMENT TECHNOLOGIES

RO | MBR | ZLD and beyond

STRONG POLICY SUPPORT

National frameworks & regulations enabling widespread adoption

ANNUAL WATER RESOURCES
3,880 BCM

UTILISABLE WATER
1,139 BCM
(~30%)

WATER DEMAND 2050
1,180 BCM

REUSE OPPORTUNITY
HIGH GROWTH SECTOR

WASTEWATER IS SHIFTING FROM A COMPLIANCE REQUIREMENT TO A STRATEGIC INFRASTRUCTURE ASSET.

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INDUSTRY OVERVIEW

India's wastewater management ecosystem spans the entire water cycle — from sourcing and treatment to recycling, reuse, and safe discharge across WTP, STP, CETP, and ZLD.

WATER TREATMENT PLANTS (WTP)

Treats Raw Water



SEWAGE TREATMENT PLANTS (STP)

Treats Municipal Wastewater



THE WATER CYCLE

1. WATER SOURCES
2. WATER TREATMENT
3. WATER USAGE
4. WASTEWATER GENERATION
5. TREATMENT & RECOVERY
6. REUSE / SAFE DISCHARGE

COMMON EFFLUENT TREATMENT PLANTS (CETP)

Shared Industrial Treatment



ZERO LIQUID DISCHARGE (ZLD)

Maximum Water Recovery



KEY DRIVERS OF GROWTH

INDUSTRIAL EXPANSION + URBANISATION & INFRASTRUCTURE GROWTH + STRICT ENVIRONMENTAL REGULATIONS = WASTEWATER INFRASTRUCTURE GROWTH

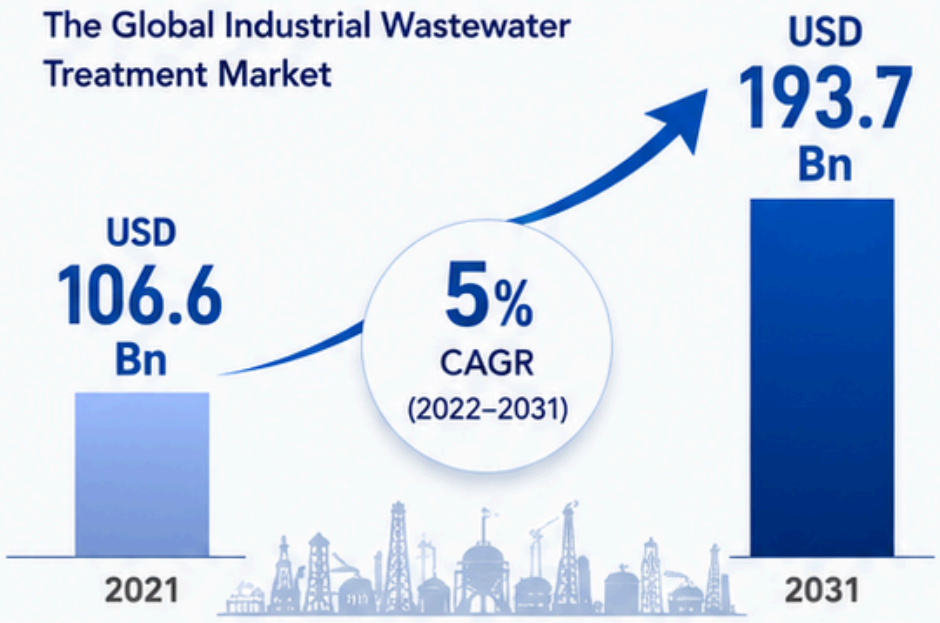
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MARKET SIZE & GROWTH

A rapidly expanding market driven by industrialsation, water scarcity, and environmental compliance.

GLOBAL MARKET

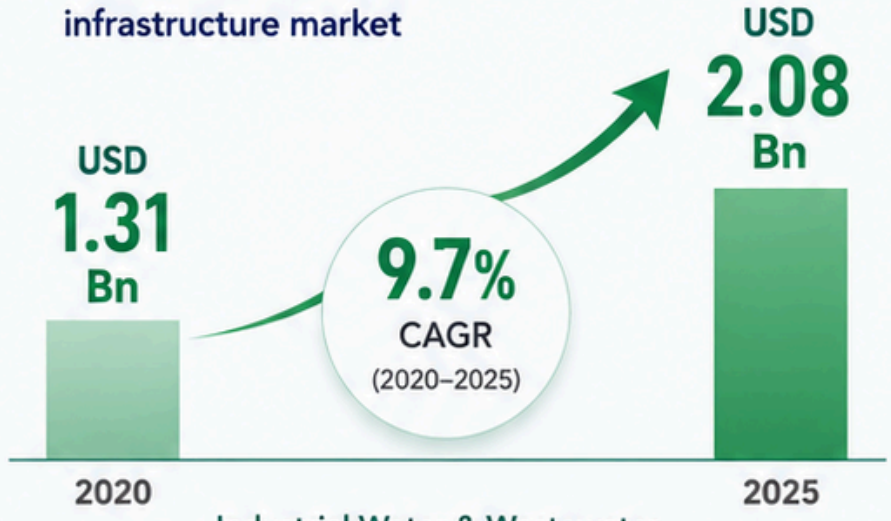
The Global Industrial Wastewater Treatment Market



Global wastewater treatment demand continues to rise across industrial and municipal applications.

INDIA MARKET

India's industrial water and wastewater infrastructure market



Industrial Water & Wastewater Infrastructure Market

8.3% CAGR over 2024–2030

GLOBAL CAGR 5.0% VS INDIA CAGR 8.3%



India Growing Faster Than Global Markets

KEY DEMAND DRIVERS

- Power
- Chemicals
- Pharmaceuticals
- Textiles
- Food & Beverage
- Metallurgy
- Refineries

INVESTMENT THESIS

"Water scarcity, industrial expansion, and tightening enviromental regulations are accelerating investments in wastewater infrastructure across India."

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REGULATORY & POLICY LANDSCAPE



Strong policy support has been the backbone of India's water and wastewater infrastructure growth.

INDIA'S POLICY EVOLUTION

1987 — National Water Policy

2014-15 — Namami Gange

2019 — Jal Shakti Ministry & Jal Jeevan Mission

2021 — AMRUT 2.0

2024 — Draft Liquid Waste Management Rules

POLICY PRIORITIES

- Water Conservation
- Wastewater Reuse
- Rainwater Harvesting
- Water Security
- Sustainable Resource Management

FLAGSHIP GOVERNMENT PROGRAMS

- Jal Jeevan Mission
- AMRUT
- Namami Gange
- Swachh Bharat Mission
- National Water Mission

WHY IT MATTERS

Strong **policy support**, stricter environmental compliance, and rising **infrastructure investments** are accelerating demand for water treatment, recycling, reuse, and **water security** solutions across India.



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TECHNOLOGY LANDSCAPE

The sector is shifting from conventional treatment to advanced recovery, recycling, and resource-efficiency technologies.

NEXT-GENERATION WATER TECHNOLOGIES

REVERSE OSMOSIS (RO)
High-purity water recovery and ZLD systems

MEMBRANE BIOREACTOR (MBR)
Combined biological treatment and membrane filtration

ZERO LIQUID DISCHARGE (ZLD)
Complete wastewater recycling, no discharge

MINIMUM LIQUID DISCHARGE (MLD)
Intermediate step toward full ZLD

ELECTROCOAGULATION
Chemical-free coagulation using electrical current

ANAEROBIC DIGESTION
Biogas generation from organic wastewater sludge

KEY INDUSTRY SHIFT

CONVENTIONAL TREATMENT → WATER RECOVERY → WATER REUSE → RESOURCE RECOVERY → CIRCULAR WATER ECONOMY

Advanced technologies enable higher recovery, lower discharge, reduced OPEX, energy generation, and long-term resource security across municipal and industrial ecosystems.

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CURRENT LANDSCAPE

VALUE CHAIN ANALYSIS & INDUSTRY STRUCTURE

INTEGRATED VALUE CHAIN



01 WATER SOURCE
Raw Water Intake

02 TREATMENT
WTP | STP | CETP

03 DISTRIBUTION
Pipelines & Pumps

04 RECYCLING
RO | MBR | ZLD

05 SAFE REUSE
Industrial | Municipal

GROWTH DRIVERS

- WATER REUSE
- SMART TREATMENT
- DECENTRALIZED PLANTS
- TIER II & III EXPANSION

INDUSTRY STRUCTURE

50+
MAJOR PLAYERS

EPC
DOMINATED MARKET STRUCTURE

TOP 20
~35% REVENUE SHARE

ECOSYSTEM PARTICIPANTS

VA TECH WABAG · THERMAX · ION EXCHANGE (Refreshing the Planet) · Schneider Electric · SIEMENS · Honeywell
LARSEN & TOUBRO · meil · JACOBS · AQUATECH INTERNATIONAL · SPX FLOW · HITACHI (Inspire the Next)
FLUOR · suez · SOLENIS · BASF (We create chemistry) · TRIVENI ENGINEERING & INDUSTRIES LTD. · LANCO (Always Inspiring)

SMEs ARE EMERGING AS KEY ENABLERS OF INDIA'S WATER INFRASTRUCTURE GROWTH



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GEOGRAPHY ANALYSIS

REGIONAL MARKET OVERVIEW

India's wastewater treatment investment is geographically diverse, with distinct demand drivers across states and regions. In 2025, southern and western states accounted for a significant share of investments, driven by industrial corridors mandating ZLD compliance and municipal corporations accessing ESG-linked debt.

RAJASTHAN & HARYANA

Rising reuse of treated wastewater in thermal power plants is boosting tertiary treatment demand.

GUJARAT

Semiconductor and industrial clusters are driving demand for advanced water treatment systems.

KARNATAKA

Water scarcity and green hydrogen projects are increasing desalination investments.



ASSAM & MEGHALAYA

Jal Jeevan Mission projects are increasing demand for compact treatment solutions.

ODISHA & WEST BENGAL

Steel and mineral industries are supporting industrial wastewater retrofit opportunities.

ANDHRA PRADESH & TAMIL NADU

Coastal desalination projects are gaining momentum due to climate resilience needs.

KEY INVESTMENT DRIVERS

INDUSTRIAL CORRIDORS + WATER SCARCITY + ZLD COMPLIANCE + MUNICIPAL INFRASTRUCTURE + ESG-LINKED FUNDING = WASTEWATER INVESTMENT GROWTH

KEY INSIGHT

Southern and Western India account for a significant share of wastewater investments, supported by industrial expansion, stricter environmental regulations, and growing adoption of water reuse technologies.



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CHALLENGES & PAIN POINTS

KEY CHALLENGES FACING INDIA'S WASTEWATER TREATMENT INDUSTRY

India's wastewater treatment sector faces multiple challenges that impact compliance, projec execution, cost efficiency, and infrastructure effectiveness.

01 REGULATORY ENFORCEMENT

- Environmental regulations are not uniformly enforced across states.
- Many ETPs and CETPs fail to consistently meet prescribed discharge standards.
- Compliance gaps undermine market development and public health outcomes.

02 CAPITAL COSTS

- ZLD and advanced treatment systems require significant upfront investment.
- MSMEs and small industrial units frequently struggle to fund treatment infrastructure.
- Creates a persistent implementation gap in the sector.

03 DELAYED PROJECT EXECUTION

- CETP implementation and large-scale wastewater infrastructure projects face long execution timelines.
- Land acquisition challenges and bureaucratic processes cause delays.
- Multi-stakeholder coordination further slows project progress.

04 AGING INFRASTRUCTURE

- Existing treatment plants—particularly in mid-sized and older industrial zones—require significant upgrades.
- Aging civil, mechanical, and electrical infrastructure increases O&M costs.
- Limits treatment efficacy and impacts long-term operational performance.

THE WAY FORWARD

- Stronger regulatory enforcement and monitoring
- Financial support and incentives for MSMEs and industries
- Streamlined approvals and faster project execution
- Infrastructure upgradation and adoption of advanced technologies

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OPPORTUNITIES & FUTURE OUTLOOK

DRIVING THE NEXT WAVE OF GROWTH IN INDIA'S WASTEWATER SECTOR

Strong policy support, technological innovation, and regional demand drivers are creating significant opportunities for investment and sustainable growth in India's wastewater sector.

01 WATER REUSE & CIRCULAR ECONOMY

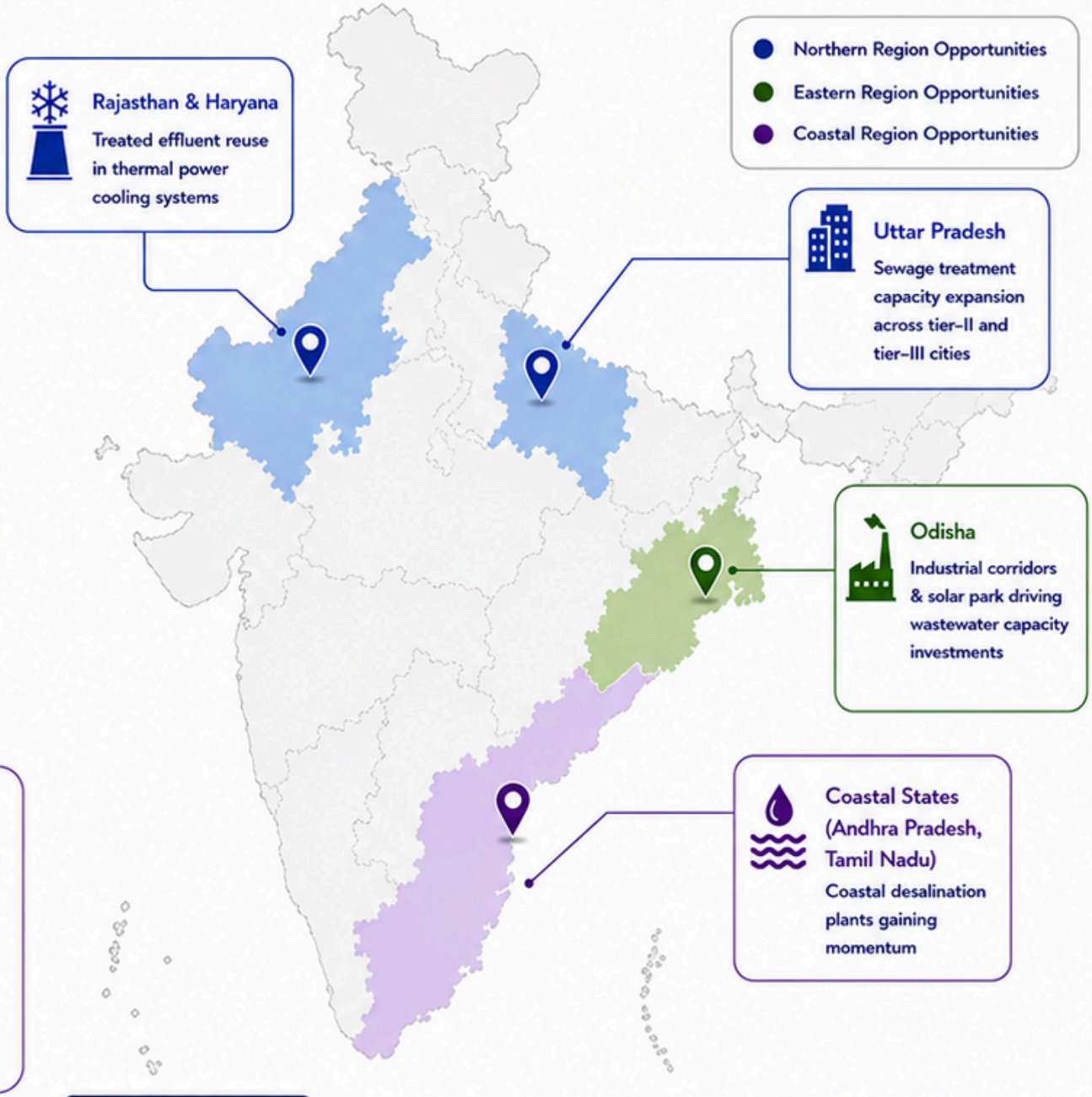
- National Framework for Safe Reuse targets 60% reuse by 2030 and 85% by 2050–51 for key water intensive sectors
- Industrial wastewater reuse creating cost-savings and circular economy opportunities
- Biogas–to–bio–CNG conversion from wastewater sludge is an emerging revenue stream for STPs

02 SMART WATER SYSTEMS

- AI/ML platforms and digital twins enabling predictive maintenance and operational optimization
- SCADA and IoT-based monitoring improving regulatory compliance and real-time visibility
- Advanced analytics detecting failure early and ensure plans what performance procurement

03 EMERGING MARKET POTENTIAL

- Odisha – Industrial corridors & solar park driving wastewater capacity investments
- Coastal States (Andhra Pradesh, Tamil Nadu) – Coastal desalination plants creating momentum for zero–liquid–discharge (ZLD) industrial hubs
- Uttar Pradesh – Sewage treatment capacity expansion in Tier–II & III cities
- Rajasthan & Haryana – Treated effluent reuse in thermal power cooling systems



THE ROAD AHEAD

- Policy push and regulatory reforms to accelerate investments and adoption.
- Advanced technologies and digitalization to improve efficiency and enable O&M.
- Water reuse and circular economy models to enhance new revenue streams.
- Private participation, innovative financing, and PPPs-backed funding will drive capital mobilization.
- Regional focus with tailored solutions will ensure sustainable long-term impact.

With strong tailwinds across policy, technology, and demand — the future of India's wastewater sector is **resilient, sustainable, and full of opportunity.**

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FUTURE OUTLOOK

BUILDING INDIA'S CIRCULAR WATER ECONOMY

INDUSTRIAL EXPANSION

Growing manufacturing capacity will accelerate demand for water treatment and recycling infrastructure.



URBAN INFRASTRUCTURE

Rising urban populations will require large-scale wastewater collection and treatment systems.



THE GROWTH JOURNEY

- **2030+** — Circular Water Economy
- ZLD Adoption
- Wastewater Reuse
- Smart Water Systems
- Urbanization
- Industrialization
- **2025**

WATER REUSE & ZLD

Industries will increasingly adopt recycling and recovery technologies to reduce freshwater dependency.



SMART WATER MANAGEMENT

AI, IoT, SCADA, and digital twins will improve efficiency, reliability, and compliance.



SECTOR OUTLOOK THROUGH 2030+

HIGHER INVESTMENTS

Substantial investments in water projects and technology from government, industries, and private players.

SUSTAINABILITY FOCUS

Stronger emphasis on water conservation, resource recovery and environmental stewardship.

TECHNOLOGY ADOPTION

Advanced technologies and digital solutions will enhance efficiency and reduce O&M costs.

WATER SECURITY

Improved resilience' for water-scarce and water stressed regions and industries for the future.

Strong policy support + rising water stress + technological innovation = a **multi-decade growth opportunity** for India's wastewater infrastructure sector.

RYSA Infratech Limited

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Water resilience is becoming a critical business priority for India's industrial future.

— Promoter, RYSA Group

Water Security | Wastewater Recycling | Industrial Resilience | ZLD Solutions

SCAN TO KNOW EQUIBEE



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As India continues its industrial and economic growth, water security is emerging as a critical business priority.

The future of the sector lies in **advanced wastewater recycling** and **Zero Liquid Discharge** solutions that reduce freshwater dependence, strengthen industrial resilience, and support sustainable growth.

— **Aryaman Dosajh**



SCAN TO KNOW
EQUIBEE

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