# WEBINAR : INDIAN WATER MARKET

OCTOBER
13

Tuesday
SGT 3 to 4pm
IGT 1230 to 130pm

# WELCOME

Organised by:

SWA
SINGAPORE WATER ASSOCIATION

EVERYTHING ABOUT WATER

# WEBINAR : INDIAN WATER MARKET

## SINGAPORE WATER ASSOCIATION

Established since 2004, Singapore Water Association has been instrumental in profiling and promoting Singapore as a pivotal regional hub for all water-related services and technologies. We provide a platform to build effective networking, facilitate opportunities for collaboration, and foster the exchange of ideas and knowledge amongst member companies.

## EA WATER

Everything About Water is India's leading knowledge and marketing solution provider in area of water and waste water management. They provide publishing, events, trade shows, consulting, conferences and training workshops in water sector. and wastewater market. Their objective is to increase awareness and promote water-related offerings to a focused audience targeting India as a potential market for companies in the water sector

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# ABOUT US

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- ✓ To ensure better connectivity, please mute your microphone and turn off the camera. You may communicate with us after the event.
- ✓ Please share your questions in the chat where we will try to provide answers where possible in the Q & A Segment.
- ✓ Do identify yourself so we can respond to any unanswered questions
- ✓ We will be recording this session and reserve the rights to the video
- ✓ Please complete a post event survey which upon return, we will forward the recording and presentation deck to the respondents.

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## HOUSEKEEPING

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| | | |
|---|---|---|
| 3:00 – 3:05 pm | Opening & Housekeeping | Singapore Water Association |
| 3:05 – 3:15 pm | Welcome Address | Singapore Water Association |
| 3:15 – 3:20 pm | Introduction to EA Water | |
| 3:20 – 3:30 pm | Overview of Indian water markets: Opportunities, Trends, Market Structure | Mr. Hariharan Subramaniam<br>Editor & Chief Operating Officer<br>*EverythingAboutWater* |
| 3:30 – 3:45 pm | Overview of routes to entry and case studies in Industrial water & wastewater | |
| 3:45 – 3:55 pm | Introduction to Expo and Consultancy Offerings | |
| 3:55 – 4:00 pm | Q & A and Closing | Singapore Water Association |

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## PROGRAMME

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# WEBINAR : INDIAN WATER MARKET

**Mr Kunal Shah**
Council Member, SWA
Managing Director, Anaergia Inc

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## WELCOME ADDRESS

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**Mr. Hariharan Subramaniam**
Editor & Chief Operating Officer
*EverythingAboutWater*

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**SPEAKER**

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# Market Overview & Opportunities in Indian Water Sector

www.eawater.com

KNOWLEDGE & MARKETING

Solutions for the Water Industry

EverythingAboutWater...

Destination INNOVATION

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# Who Are We?

## EverythingAboutWater

We assist innovative water companies to enter the Indian market. We provide end-to-end customized suite of services to our customers.

Based on in-depth knowledge of the Indian water sector, water companies can leverage our programs to take advantage of the immense opportunities available.

- The knowledge leader in the Indian water sector
- An integrated marketing platform for all your communication needs
- The only international marketing gateway to the Indian water companies
- A bridge between international technology providers and users in India
- The aid to strategy and policy-making for government and industry bodies
- The provider of valuable tools for knowledge up-gradation and market growth

# Our Offerings

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EA WATER ACCELERATOR

1. **Knowledge Services** — Access to our knowledge portals that help gain a better understanding of the opportunities and challenges in India, which includes online portals, magazine, conferences, workshops, trade meets, etc.

2. **Advisory Services** — Market advisory services to help gain market entry and visibility in Indian market  through fail proof methods.

3. **Facilitation Services** — We provide end-to-end suite of services to clients as their business development partners. Our services include sales, legal, engineering, and after-sales service support.

4. **Capital Raise Coordination** — Coordinate liaisoning of capital, and leveraging of grants and available funds.

# Key India Trend – Huge Water Deficiencies

Clean water supply and treatment represents a meaningful opportunity in the Indian water market

**Trends**

- Worsening supply demand balance with 16% of the world's population and 4% of the available fresh water
- Only 27% of wastewater gets treatment

**Implications**

- Opportunities across the spectrum in infrastructure development for water supply and wastewater treatment
- 10%+ growth rate on a ~$13Bn market opportunity

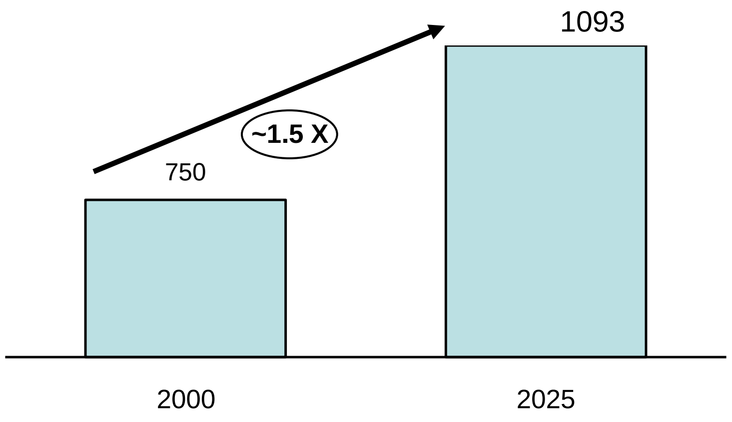
**Investment Considerations**

- Municipal market is a big opportunity till 2030
- Complex wastewater treatment / higher margin projects will be more limited to heavy polluting industries such as pulp & paper, leather etc.

**Proportion of Treated Water**

| Particulars | Class I cities | Class II towns | Total |
|---|---|---|---|
| Population (mm) | 187 | 38 | 225 |
| Water Supply (MLD) | 29782 | 3035 | 32817 |
| Water Supply (LPCD) | 160 | 81 | 146 |
| Wastewater Generated (MLD) | 23826 | 2428 | 26054 |
| Wastewater Generated (LPCD) | 127 | 65 | 116 |
| Wastewater Treated (%) | 29% | 4% | 27% |
| Wastewater Untreated (%) | 71% | 96% | 73% |

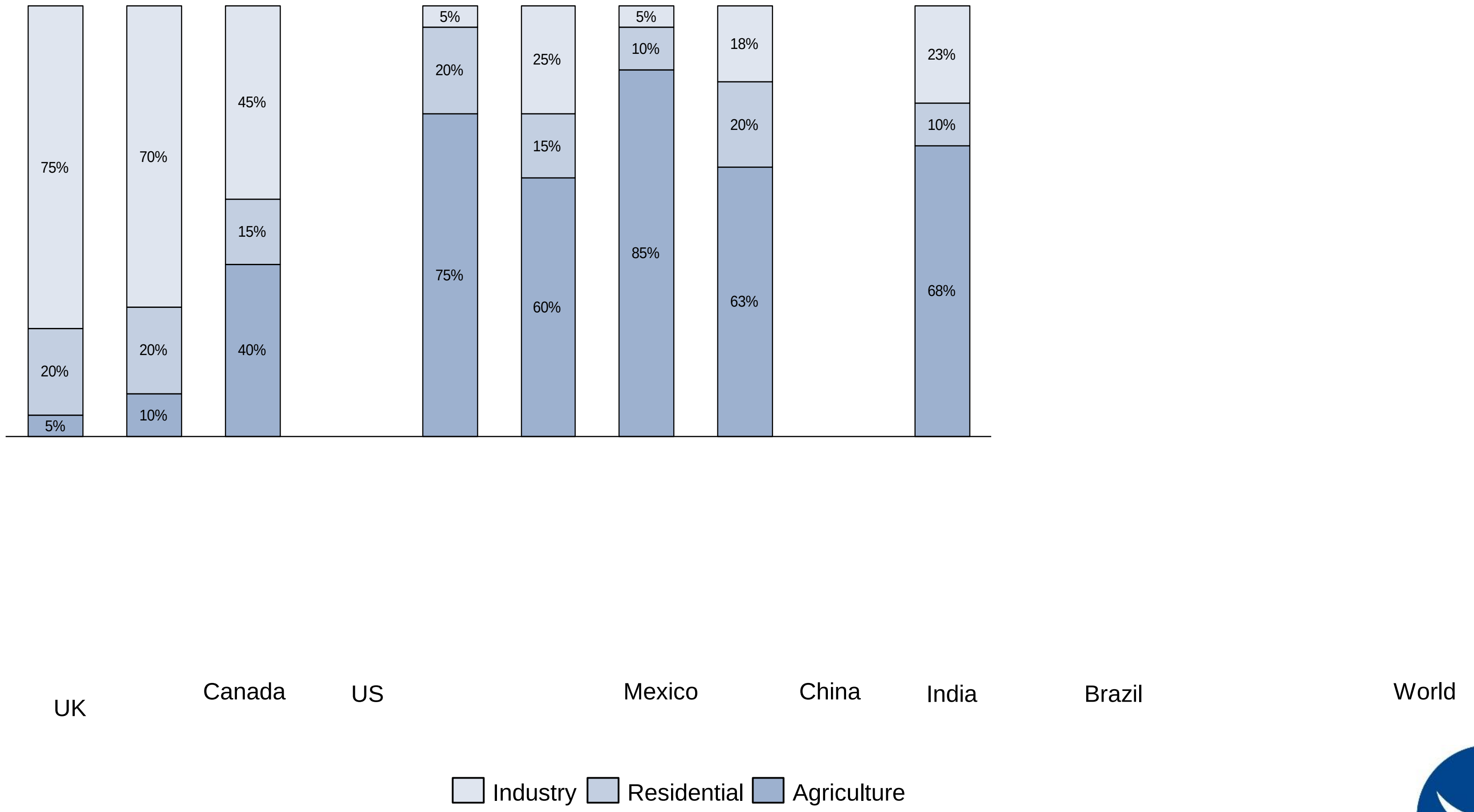
**Increasing Water Demand (Bn $m^3$)**




Source: Niti Aayog

# The Use of Water

Agriculture is by far the biggest user of water globally, driven mostly by emerging markets



# India’s Challenges & Opportunities in the Water Sector

## Groundwater Crisis

- **United Nations Reports state that India is the largest exploiter of groundwater in the world (more than United States & China put together)**
- **Groundwater levels in India are falling at the highest rate**
- **Cost of drawing & pumping water rising continuously**
- **Contamination in groundwater rising due to geological structure**

| Underground water extraction over decades | | |
|---|---|---|
| **India** | **USA** | **China** |
| 1950 : 20 cubic km<br>1970 : 45 cubic km<br>1990 : 140 cubic km<br>2010 : 251 cubic km | 1950 : 50 cubic km<br>1970 : 75 cubic km<br>1990 : 140 cubic km<br>2010 : 112 cubic km | 1950 : 15 cubic km<br>1970 : 30 cubic km<br>1990 : 85 cubic km<br>2010 :112 cubic km |

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# India’s Challenges & Opportunities in the Water Sector

## Industry Values Water More

- **Water prices for industries is over 3 to 6 times the price for residential consumers**
- **60% industries feel that water availability is impacting their business. 87% expect an impact within 10 years**
- **64% industries feel they have to pay higher prices for water, driving water conservation & recycling efforts**
- **Two most industrialized states: Gujarat & Tamil Nadu are the most water stressed in India**

| Monthly Consumption (Kilolitre) | Water Pricing For Residential Consumers (INR) | Monthly Consumption (Kilolitre) | Water Pricing For Industrial/Commercial Consumers (INR) |
|---|---|---|---|
| 0-10 | 2.66 | 0-10 | 13.31 |
| 10-20 | 3.99 | 10-25 | 26.02 |
| 20-30 | 19.97 | 25-50 | 66.55 |
| Over 30 | 33.28 | 50-100 | 106.48 |
| | | Over 100 | 133.10 |

Reference data from Delhi Jal Board

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# Opportunities/Challenges on Supply Side of Water

- Growing Scarcity in Many Parts
- Decreasing water quality
- Rising Cost of Fresh Water
- More Complex Discharges from Industrial Activity

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# Opportunities/Challenges on Demand Side of Water

- Huge and Growing Demand for Water
- Increased awareness about water quality and health
- Increased Industrial and Economic Activity
- Rising Construction, Building and Commercial demand
- Higher level of Environmental regulations
- Overall higher level of water awareness and concern

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# Structural Assessment of the Indian Water Sector

While Industrial has been an attractive end-market historically, large-scale privatization and BOT projects in the Municipal segments offer the most attractive economies

| | | Municipal (Large BOT & PPP Projects) | | | Municipal (Small Infrastructure Projects) | | Industrial | |
|---|---|---|---|---|---|---|---|---|
| | | Abstraction, distribution, and collection | Treatment | | Treatment | | Treatment | |
| | | | Clean | Waste | Clean | Waste | Clean | Waste |
| Economics | ROIC | na | 15-20% | 15%-20% | <10% | <10% | 10%-15% | 10%-15% |
| | Cyclicality | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🔵 | 🔵 |
| | Revenue Visibility | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🔵 | 🔵 |
| Structural Attractiveness | Barriers to entry | 🔵 | 🔵 | 🟢 | 🔴 | 🔴 | 🔵 | 🟢 |
| | Threat of substitutes | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 |
| | Bargaining power of customers | 🔴 | 🔴 | 🔴 | 🔴 | 🔴 | 🔵 | 🔵 |
| | Bargaining power of equipment suppliers | 🔵 | 🔵 | 🔵 | 🔵 | 🔵 | 🔵 | 🔵 |
| | Degree of competition | 🔴 | 🔵 | 🔵 | 🔴 | 🔴 | 🔴 | 🔴 |
| Risk Assessment | Execution Risk | 🔵 | 🔵 | 🔵 | 🟢 | 🟢 | 🟢 | 🟢 |
| | Regulatory Risk / Political Capture | 🔵 | 🔵 | 🔵 | 🔴 / 🔵 | 🔴 / 🔵 | 🔵 | 🔵 |

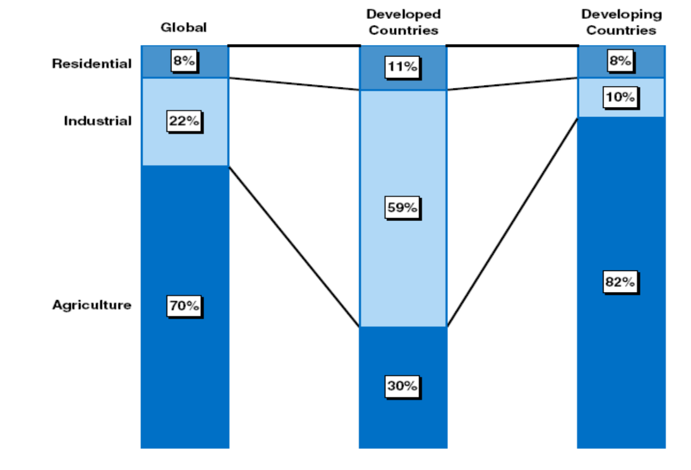
🟢 High attractiveness 🔴 Low attractiveness

# India's Challenges & Opportunities in the Water Sector

## Industries: The Most Desirable Market Segment

- Fastest growing segment in India, industry' share will rise from 10% to 20% in 2025
- Water consumption reporting to be made mandatory for large industries
- Fastest growing segment for desalination and wastewater recycling
- Industries like paper & pulp, distilleries, refineries, tanneries to adopt 100% recycling as per regulations.

Going forward, industrial usage of water is expected to double in India based on the global trend of water usage.




*Source: UN Water Development.*

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# Industrial Water Market in India

- Industrial sector makes up about 20% of India's GDP and Indian industry is growing at a rate of over 8 % p.a.
- Industrial water use in India is about 40 billion cubic metres (bcm) which is nearly 6% of the total freshwater abstraction. Annual wastewater discharge from industry is 30.7 bcm
- Water demand for industrial and energy usage is projected to increase to 191 bcm by the year 2025.
- CPCB estimates the total wastewater discharge from industrial sources to be 83,048 MLD
- With increasing industrial growth, the demand for water and water treatment would grow. Despite more water-efficient manufacturing processes, the market would grow.
- Pollution control board norms for all manufacturing industries are planned to become more rigorous and enforcement would become stricter, due to higher public scrutiny

# Industrial Water Market in India

- Major industries consuming water include power generation, steel, oil & gas and metals
- India also has large number of textile, pharmaceutical, chemical and food & beverage industries, spread across the country
- Growing market for membrane technology, demineralization and cooling water treatment for process and utilities
- Major polluting industries include distilleries, paper & pulp, electroplating and leather tanneries
- Wastewater recycling in industries is growing as the environmental discharge norms get stricter and the cost of fresh water rises
- Zero liquid discharge is growing in many industries, driven by regulation, judicial action and public opinion
- Larger industries in coastal areas have also gone for sea water desalination

# Water for Indian Building Sector

- With rapid urbanization, India has witnessed a huge real estate boom in the last decade, with large number of multi-storeyed residential and commercial buildings coming up in urban India
- Growing tourism and business travel has seen entry of major hotel chains (Hilton, Radisson, Sheraton, Marriott)
- Organized retail has picked up with the recent entry of big chains like Walmart, Carrefour and Metro
- Water treatment and recycling in buildings has become a common occurrence, driven by regulation. Packaged sewage treatment plants are growing as decentralized water management picks up
- Recycled water being increasingly used for building construction
- Centralized cooling systems in buildings need modern water transfer and treatment systems
- Growth of Green Building movement as India has more green buildings than any other country in the world.

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# Some Key Visible Opportunities in Water & Wastewater

# National Mission for Clean Ganga (NMCG)

- Home to 400 million Indians
- Total river length of 2,525 kms
- About 2.9 billion cubic metres of sewage discharged in the river daily
- Industrial effluents constitute about 12% of the total discharge into the river
- Hub of social, economic and religious activity for India


# National Mission for Clean Ganga (NMCG)

- Major emphasis for reducing pollution in a sustainable manner, in four key sectors:
  - Wastewater collection and treatment
  - Industrial pollution control – CETPs, ETPs
  - Solid waste management
  - Riverfront management
- Projects worth USD 4 billion already sanctioned
- Sewage Treatment capacity of about 3,600 MLD would be created
- Push towards recycling and zero liquid discharge
- Hybrid Annuity Model (HAM)
- 764 numbers of Grossly Polluting Industries (GPIs) identified
- Sensor-based real time online effluent monitoring systems installed in all industries

# Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

- Flagship program of Govt of India for water supply and sewerage
- Total outlay of approx. USD 11 billion covering 500 cities and towns
- 2,869 projects completed and 2,667 more projects awarded
- 13.9 million water connections and 14.5 million sewerage connections provided under the scheme
- Project started in 2015 and recently extended till March 2022

AMRUT

Atal Misson for Rejuvenation and Urban Transformation

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# Jal Jeevan Mission (JJM)


- Prime Minister Modi's pet project to provide Functional Household Tap Connection (FHTC) to every rural household by 2024
- Total estimated cost of JJM is approx. USD 48 billion
- Started in August 2019, about 20 million households have been provided tap connections in last one year
- Goal is to reach 189.3 million households and current achievement is about 28.5%
- Opportunity for water transportation and distribution, piping, cement and metering solutions

# Smart Cities Mission

- Urban renewal and retrofitting project for 100 identified cities with projects set between 2019 to 2023
- USD 6.7 billion approved by the Union Cabinet for the projects in areas including smart water supply, sewerage management and metering in these urban centres
- Strong element of public private partnership

Smart City
MISSION TRANSFORM-NATION

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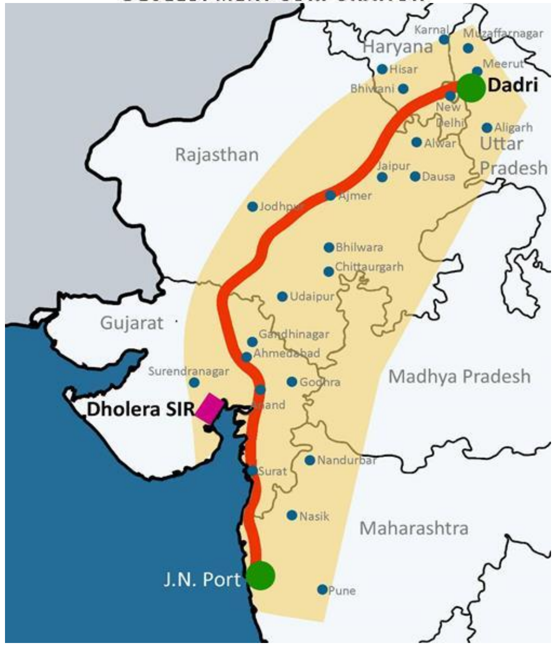
# National Industrial Corridor Development Corporation

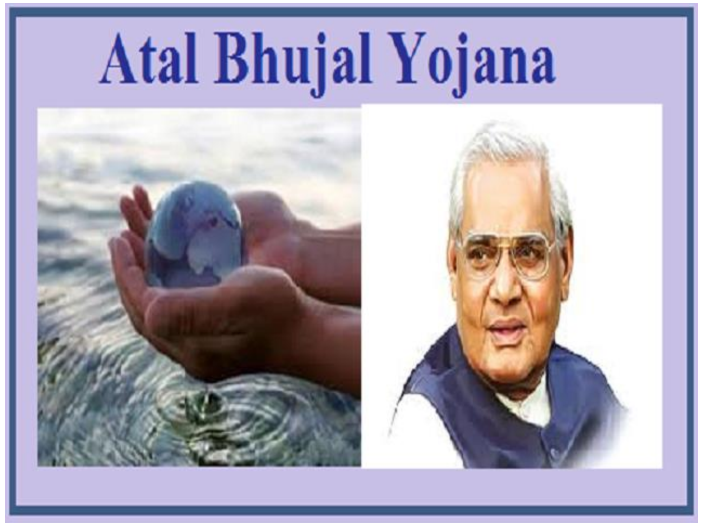
- 1483 km Delhi Mumbai Industrial Corridor is a mega infrastructure project with investment to the tune of USD 90 billion. 65% of the projects under Public Private Partnership model.
- 24 investment nodes in a band of 15-200 kms along the freight corridor including Shendra-Bidkin, Dholera and Manesar-Bawal
- Similar opportunities in Chennai Bangalore Industrial Corridor, Bangalore Mumbai Industrial Corridor and Amritsar Kolkata Industrial Corridor.

NICDC
NATIONAL INDUSTRIAL CORRIDOR DEVELOPMENT CORPORATION



# Atal Bhujal Yojana

- Project launched in Dec 2019 to improve ground water management
- Goal is to improve water use efficiency at a mass level
- Project components include improving monitoring network, capacity building, data dissemination and water security
- Total outlay of USD 800 million
- 50 percent of the outlay would be through loan from World Bank





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# Market Characteristics

- Fragmentation of Industry
- Growth of a few medium-sized players
- Geographical decentralization of industry
- Entry of international players
- Growth of Energy-Efficient Technologies
- Growth in standardized plants

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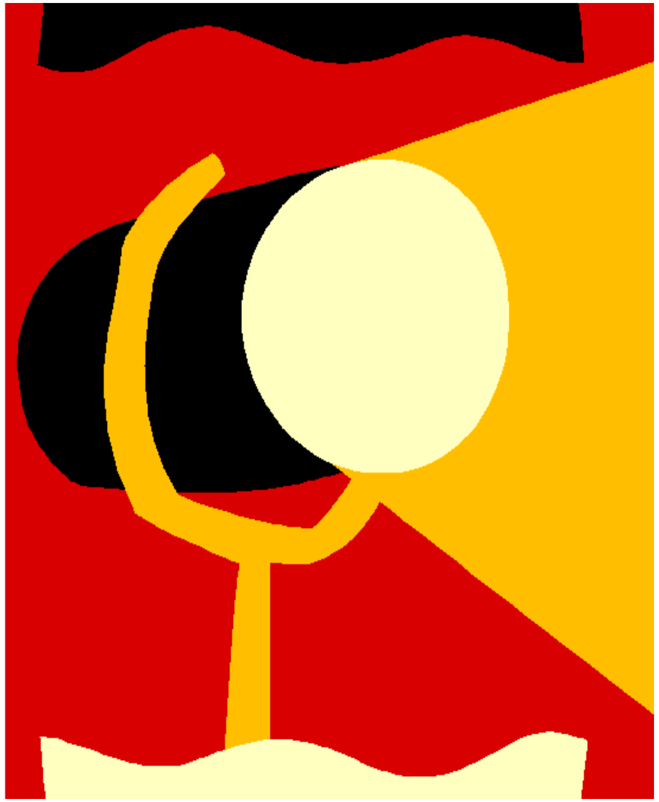
# Future Market Trends



- High investment in urban water supply
- More stringent ground water extraction and wastewater discharge norms
- Wastewater Recycling
- Desalination
- Community-based drinking water schemes
- Growth of O & M businesses
- Growth of packaged sewage treatment plants
- Growing Point-of-use Residential Market
- Growing Packaged Drinking Water Industry

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# Government Regulatory Framework

- Customs Duty Structure
- Regulations for Entry of Foreign Companies

# Customs Duty Structure

- Covered under Section 8421 of the Customs Classification
- Basic Customs Duty of 7.5%
- Countervailing duty of 16%, 3% cess on CVD, 3% further cess on total and 4% special duty
- Total Effective Duty of 31%
- Zero Customs Duty on specified and approved projects for drinking water or wastewater treatment

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# Regulations for Entry of Foreign Companies

- Falls under Open Category
- Not restricted or prohibited in any way
- Can be imported by any Indian company with an Import- Export Registration Code
- For any foreign direct investment into India, approval from Reserve Bank of India and the Foreign Investment Promotion Board (FIPB) is needed
- Any joint venture or subsidiary has to be registered with the Registrar of Companies

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# Preferred Customers

- Certain state governments are more receptive and forward-looking in working with international companies
  - ✓ Gujarat
  - ✓ Maharashtra
  - ✓ Karnataka
  - ✓ Tamil Nadu
  - ✓ Telengana
  - ✓ Andhra Pradesh

- Certain utilities are more cash-rich and professional in their outlook
  - ✓ Delhi Jal Board
  - ✓ Bangalore Water Supply and Sewerage Board
  - ✓ Chennai Metropolitan Water Supply and Sewerage Board
  - ✓ Pune Municipal Corporation
  - ✓ Hyderabad Metropolitan Water Supply and Sewerage Board
  - ✓ Thane Municipal Corporation

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# High Potential Opportunity Areas for Singapore Companies in India

- Wastewater treatment and recycling
- Water quality testing and monitoring
- Environment consulting and designing
- Drinking water technologies- fluoride, arsenic and salt-removal
- Leakage monitoring and water infrastructure maintenance
- Biological wastewater treatment
- Sea water desalination
- Sludge Handling, Treatment and Disposal
- UV and other water disinfection technologies

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# International Companies successful in India

- Suez Environment
- Pentair Water
- Grundfos Pumps
- Xylem
- Ecolab
- Hach / Danaher Group
- S::can
- Dupont
- Andritz
- Endress + Hauser
- IDE Technologies
- AECOM

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# The Way Forward

- Finding the Right Opportunity
- Finding the Right Route to Market :

  Partner – Contractor or Distributor / Selling Partner
- Finding the Right Strategy
- Thinking Long-Term

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# Major Contractors in the Water / Wastewater Sector

- Larsen and Toubro
- VA Tech Wabag
- Thermax
- Ion Exchange India
- Shapoorji Pallonji
- Tata Projects
- Adani Water
- Triveni Engineering
- Voltas
- Praj Engineering
- JWIL Infra
- Rochem Separation

# 5 Step Process

### Technology/ Market Assessment

- Detailed comparative analysis of technology, indigenization potential of technologies, price point analysis, quantification of the size of market for said technology, and market access potential.

### An Assessment of Organization Readiness for India

- Based on an understanding of your organization's vision, mission, strategies, objectives, business culture understanding, your India readiness will be developed and a plan of action provided.

### Commercial Agreement

- This agreement between EA Water and the water company may be a mutually beneficial arrangement that may take the form of any or some of the following: retainers, revenue sharing, share purchase, equity stake, technology licensing, etc.

### Technology Test Bedding/ Indigenization

- Our team will implement the technology at one of our existing sites for on-site testing and validation of technology, if necessary, the technology will be indigenized to work in local environments and hit price points.

### Market Acceleration

- Detailed market penetration strategy is created and executed which may include direct access to our 800 OEM base, direct sales to end clients, key alliance or partnership with builders or other such strategic partners, positioning in our magazines, conferences, and trade meets amongst other methods.

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# THANK YOU

## Look forward to your business growing in India …

**H. Subramaniam**

**Email: subrah@eawater.com**

**Mobile : 91-9810431663**

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Singapore Water Association
T: (65) 65150812
E: enquiry@swa.org.sg
www.swa.org.sg

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