

Water & Wastewater Treatment Sector In India





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Introduction

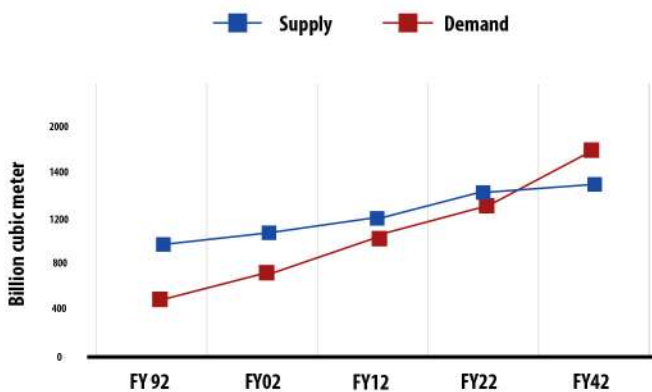
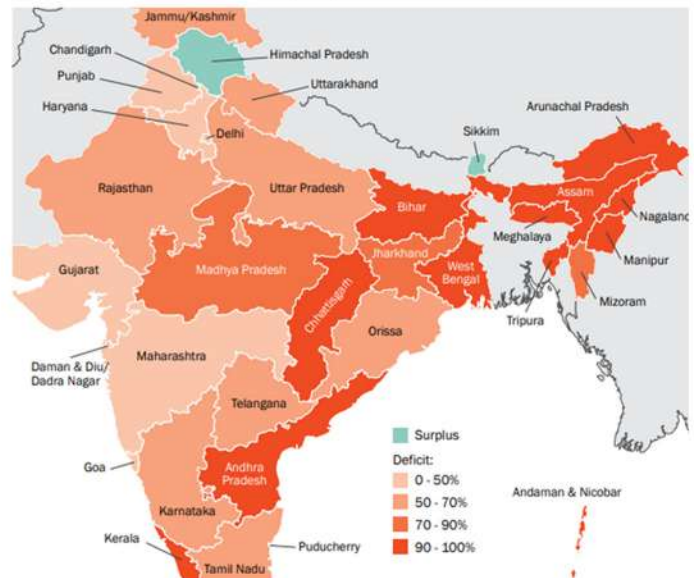


- The demand for fresh water in India has continued to increase at a rapid pace. Continuous investment in water and wastewater improvement has created ample opportunities for water treatment equipment technology in India.
- The funding allocation for WSS in the 12th FYP (2012-2017) is estimated to be 5,000 Cr.
- Private sector and PPP-based investments, which contributed to about 30 per cent of the total investments in the 11th FYP, are expected to rise to 50 per cent in the 12th FYP.
- As haphazard urban development continues in India, infrastructure to support the growth is being stretched to its breaking point. The municipalities and industries are continuously investing substantial money in water and wastewater improvement, creating ample opportunities for water and wastewater treatment equipment technology in India.
- Capital expenditure on water and wastewater infrastructure in India is set to increase by 83% over the next five years, hitting an annual run rate of \$16 billion by 2020.

India water & wastewater treatment market is projected to reach US\$ 950 million by 2026. Growing industrial sectors coupled with favorable government policies such 'Zero Liquid Discharge' are making an increasing number of industries to treat wastewater for reuse.

Government is also taking various initiatives for cleaning of rivers and other fresh water sources, which is increasing consumption of water & wastewater treatment chemicals in the country.

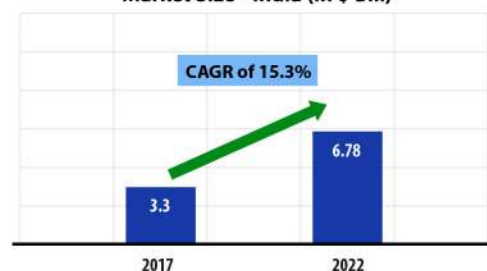
Wastewater treatment capacity vs. wastewater produced in India



Due to the central and state governments' renewed vigor in propounding the reduction and eventual elimination of pollution in India's rivers, the wastewater treatment sector is expected to grow faster than water treatment, exhibiting a CAGR of 15.3% to reach \$6.78 billion in 2020, up from \$3.3 billion in 2015. Spending on water supply will grow from \$5.56 billion to \$9.4 billion over the next five years.

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Water & Wastewater Treatment Equipment Market Size - India (in \$ Bil.)



Irrigation demand in India's major river basins by 2050

River Basins	Major Agriculture States in the River Basins	Water used for irrigation
Ganges	Uttar Pradesh	91%
Krishna	Maharashtra, Karnataka	90%
Kaveri	Tamil Nadu, Karnataka	95%
Godavari	Andhra Pradesh, Karnataka	89%

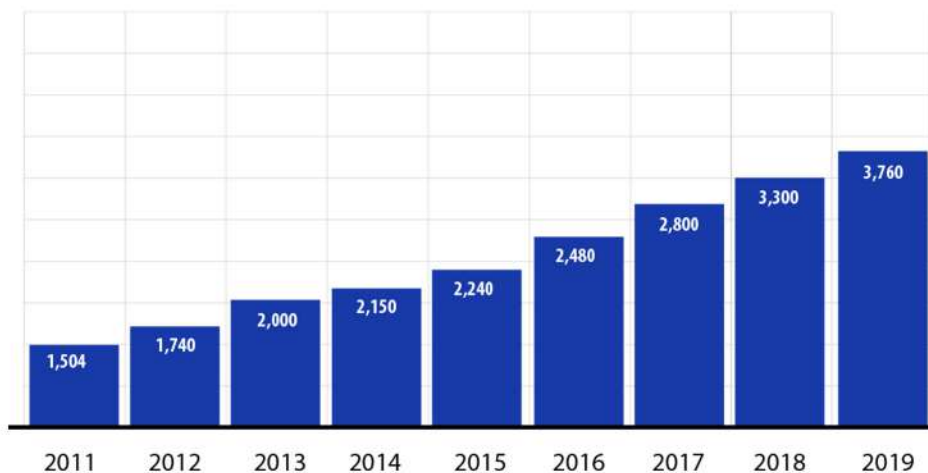
Current Trend

- **Technology Trends:** The growing demand for potable water, the rate of using reclaimed water is gaining pace in the Asia Pacific markets, especially in India. Recycling of water and wastewater treatment involves a combination of technologies to treat the water and make it reusable or attain a safe standard for disposal. Technologies such as nanotechnology, desalination and membranes have been widely used for water treatment depending upon the quantity and quality of water/wastewater and the available funds as per the specific use. As energy-efficient processes are the need of the hour, forward osmosis, hybrid desalination and solar desalination will gain importance over the years.
- **Regulatory Trends:** In recent decades, compliance with Government wastewater quality requirements has been the primary driver of industrial wastewater treatment programs in India. There are total 46 categories (including distilleries, pulp and paper, power, refineries, etc.) specific to each of the industry segments in India. An industry should abide by the Government wastewater quality requirements for the specific concentration limits of the wastewater discharged.

The Zero Liquid Discharge (ZLD) or Zero Discharge (ZD) Policy has been drafted by the Ministry of Environment and Forest (MoEF) and Central Pollution Control Board (CPCB), which urges industries to strive for ZLD status. The implementation of this Policy is the responsibility of the respective State Pollution Control Boards (SPCBs). Currently, only a few states and specific industrial end users like textile and automobile manufacturers and breweries are mandated to achieve ZLD status. It is expected to be implemented uniformly all over the country in the coming years.

- **Competitive Trends:** The market is highly fragmented. Cost, high expertise, prior experience and brand equity are critical competitive factors in the Indian market. For huge municipal and industrial projects there is a pre-bidding process and hence high expertise and prior experiences are critical factors. Companies that offer energy-efficient solutions at competitive costs are likely to take a central position in Indian water and wastewater treatment market.

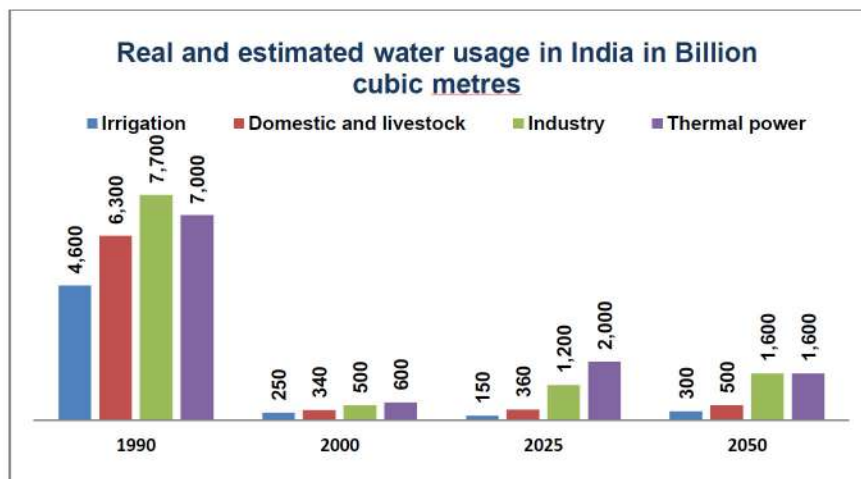
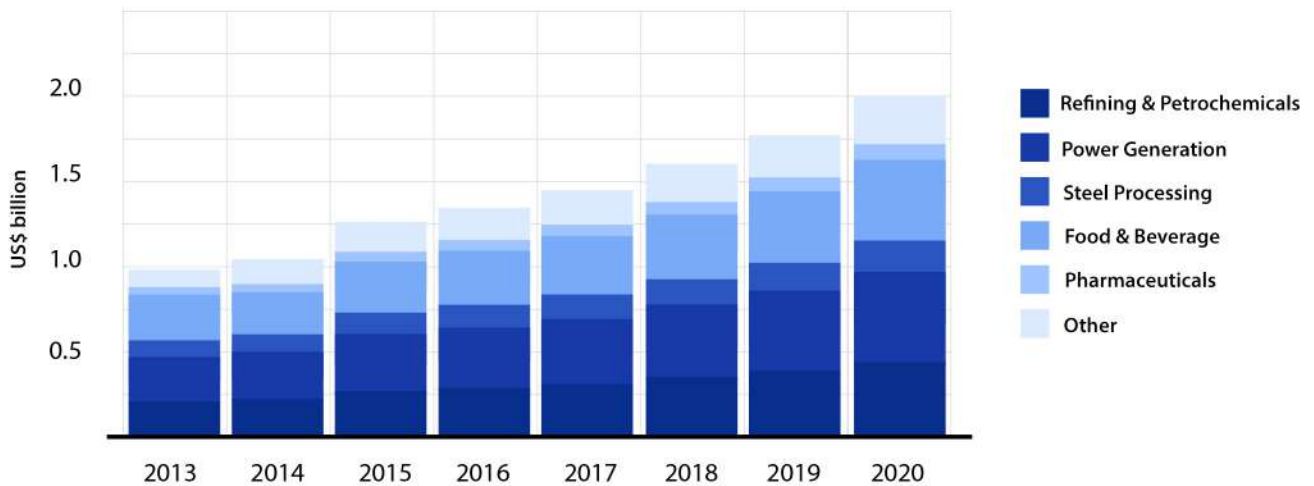
India wastewater capital expenditure (USD Million)



Competitors

- Triveni
- Ion Exchange
- Wabag
- Suez Environment
- Thermax

Water and wastewater capex by industry in India (2013-2020)



Opportunities

- New wastewater treatment plants and plant upgrades: The overall cost of cleaning the Ganga has been estimated at \$100billion. For this purpose, many additional wastewater treatment plants will be required, as well as the need for upgrading existing plants and more advanced wastewater treatment in order to comply with stricter regulations.
- New plants driving opportunities for new technologies: More and more plants in India are being procured with O&M periods attached. The increasing specialization of water treatment systems creates opportunities for water companies with established international expertise and a greater chance for new technologies to be implemented.
- Urban water supply and sanitation: The government is continuing to commit considerable spend for urban water supply and sanitation through such program as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and the Smart Cities Mission.
- Wider adoption of ZLD and advanced technologies: Growing industrial water reuse and the drive towards ZLD means advanced technologies are sought to increase water recovery rates and reduce discharge volumes. Wider adoption of these technologies drives the need for more effective secondary and tertiary treatment to optimize these processes.

- **Private Sector Participation:** The estimated expenditure for water infrastructure required in India far surpasses the financial capacity of the Indian government, and therefore private finance to meet these demands is being

actively encouraged. There are prospects for BOTs in the longer term and an increased involvement of the private sector in the water market both in financing and operation.

Projected wastewater generation in urban Indian		
Year	Consumption (Litres per capita per day)	Gross Wastewater Generation (Million litres per day)
2021	121	59,048
2031	121	77,198
2041	121	101,035
2051	121	132,253



Audit • Tax • Legal • Advisory

Corporate Office

201, Tower S4, Phase II, Cyber
City Magarpatta Township,
Hadapsar Pune - 411 013,
INDIA

Mumbai

203, 2nd Floor, Mahinder
Chambers W.T, Patil Marg,
Opp. Dukes Factory,
Chember, Mumbai - 400 071,
INDIA

Gurugram

248, 2nd Floor, Tower - B
Spazedge Commercial
Complex, Sector 47, Sohna
Road, Gurugram - 122 001,
INDIA