

Market Profile: Growth in India's water market

Charting a modern passage to India

The crackdown on water pollution in India is in full swing. A new primary research report from GWI analyses the opportunities resulting from the clean-up of India's rivers – and ambitious urban change initiatives.

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. The utility market is set to top \$14 billion within five years, while annual spending in the industrial sector will approach \$2 billion (see chart below).

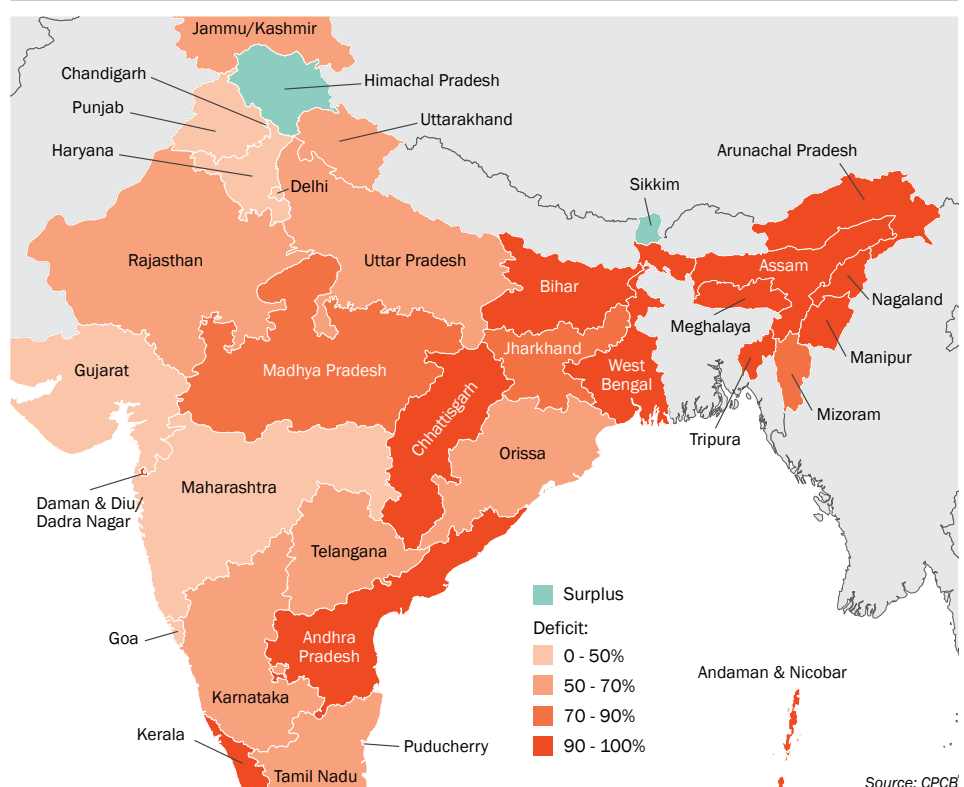
Due to the central and state governments' renewed vigour in propounding the reduction and eventual elimination of pollution in India's rivers, the wastewater treatment sector is expected to grow faster than water treatment, exhibiting a CAGR of 15.3% to reach \$6.78 billion in 2020, up from \$3.3 billion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

Cleaning up India's rivers

The pollution of India's rivers has become critical, and the government is leaping into action in an attempt to tackle it. Only around 30% of wastewater generated in India is treated, and millions of litres of untreated wastewater flow into rivers every day. A recent Central Pollution Control Board (CPCB) survey of treatment capacity volumes compared to wastewater generation revealed huge deficiencies in the majority of states in India (see map, right).

The prime example of river pollution is the river Ganga, the basin of which is home to some 400 million Indians. Current levels of pollution in the Ganga are the worst ever recorded, and the new government has

Wastewater treatment capacity vs. wastewater produced in India



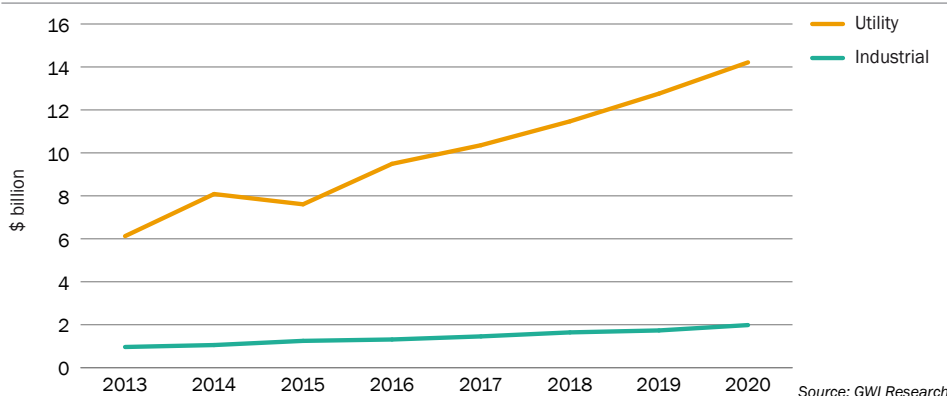
made cleaning the Ganga River one of its key priorities under the "Namami Gange" programme. INR200 billion (\$3 billion) has been pledged by the government over the next five years to clean up the Ganga.

A new Ganga River Basin Management Plan (GRBMP) was submitted in January

2015, outlining important steps to prevent the discharge of untreated wastewater into the river. Some of the more salient measures that the GRBMP recommends include the mandatory reuse of wastewater from Class I towns (population over 100,000), along with a series of decentralised wastewater treatment plants in areas where no sewerage systems exist. There is also a draft bill set to be enacted in the coming months to regulate the discharge of waters into the Ganga via the setting up of a commission with the power to take greater levels of punitive action than is currently exercised.

As an extension of the clampdown on pollution, the CPCB has introduced tighter wastewater discharge standards for municipal wastewater treatment plants. Future facilities will need to comply with these standards, while existing WWTPs will need to meet them within five years.

Capital spending on water and wastewater in India (2013-2020)



Transforming India's cities and towns

The new NDA government has unveiled initiatives that promise to transform India's ever-expanding cities and large towns to rival those in developed nations. In order to speed up the construction of water and wastewater projects across the country, the government is adding new incentive tools – such as priority release of budget allocations on the basis of reforms implemented by states in the previous year – whilst also undertaking a review of water tariffs.

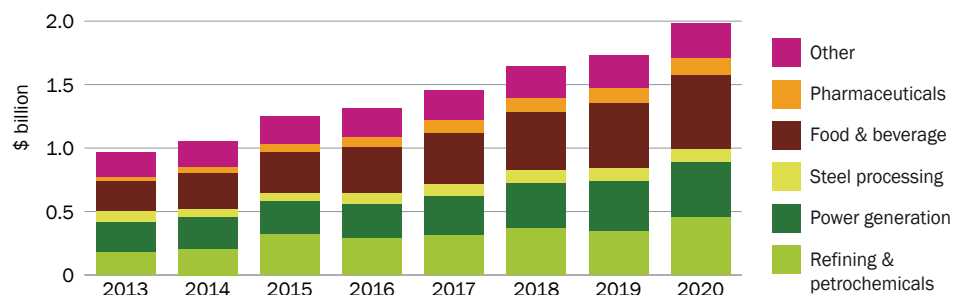
This had previously been attempted under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), but with varying degrees of success. The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) – the Modi government's successor to the JNNURM – and the Smart Cities Mission are aimed at realising the government's ambition of bringing the quality of India's water supply and sanitation to a level currently enjoyed by developed economies. INR500 billion (\$7.7 billion) has been allocated for investment in 500 towns and cities under AMRUT, with INR480 billion (\$7.4 billion) put aside for upgrading 100 cities to attain 'smart' status. Water and wastewater infrastructure is anticipated to constitute up to 40% of the total investment under these initiatives.

A trend towards services contracts is also creating opportunities for international companies. Many contracts are now being awarded under a DBO or EPC+O&M model, typically with operating contracts of five years or more attached to them. This contrasts with the "build-neglect-rebuild" practice of past years, where many treatment plants were built but not maintained properly, and eventually fell into disrepair. With these types of maintenance contracts, utilities are becoming less conservative when it comes to technology choice. While they tended to stick with the traditional activated sludge process or waste stabilisation ponds in the past, they are now opening up to the idea of new options.

Industrial markets

The Indian economy has slowed recently, but good growth looks set to return to several industrial sectors. There is a yawning power supply deficit as industry recovers from the slowdown due to shortages in coal supply. Many projects which have been put on hold are now moving forward again, creating a strong market for water and wastewater treatment services. Refining & petrochemical plants are taking advantage of low oil prices, and many refineries in India are operating at over 100% of their design capacity.

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



Source: GWI Research

Opportunities in the industrial sector mainly lie in the field of wastewater treatment, as industries respond to the government's clampdown on polluting entities. The regulation of wastewater discharges has historically been lax, but many industrial units face closure unless they meet the standards. The government has proposed zero liquid discharge (ZLD) for highly polluting industries, and the thinking behind this is that many small industrial units cannot meet the discharge standards, and therefore going straight to ZLD will help reduce pollution of surface water bodies.

Wastewater reuse is rising up the agenda for many industries, including power, refining & petrochemicals, pharmaceuticals, and steel. This is being driven by stricter regulations around freshwater consumption and wastewater discharge. It means that the biggest growth areas in terms of technology will be those that enable industrial users to treat their wastewater to a higher standard, including reverse osmosis, nanofiltration and membrane bioreactor systems, as well as more advanced biological treatment systems. Ultrafiltration membranes are becoming more popular as a pretreatment method for reuse systems.

A key opportunity for international companies lies in the refining & petrochemicals sector, where the processing of lower-grade crudes requires innovative treatment technologies to enhance the removal of volatile organic compounds. Foreign players such as BioPetroClean and MyCelx are already finding success in this arena, where Indian companies simply cannot offer the technologies required. This sector is set to grow at a CAGR of 7.4% over five years.

Spending on process water will remain important, with high growth rates predicted for many industrial sectors. The market for ultrapure water treatment in the pharmaceutical industry will present key opportunities, where demand for water and wastewater treatment systems is expected

to grow by 15.2% until 2020. The pharmaceutical sector is expected to see the highest growth over the period, followed by food & beverage, power generation, steel, and refining & petrochemicals (see chart above).

India continues to set up industrial parks, with many of them located in corridors across the country, such as the Delhi-Mumbai Industrial Corridor. Investment regions and industrial parks being developed along these corridors will be green-field industrial townships, offering opportunities for the management of integrated water and wastewater systems and the outsourcing of operations in the form of EPC+O&M contracts, with a view to BOTs and similar models in the future.

Routes to market

Establishing partnerships with Indian companies is an effective way for foreign players to enter the market. Ramping up action on pollution will enhance the need for local market participants to partner with international technology providers. The advent of increasing numbers of contracts which involve private sector participation – typically in the form of operations contracts – marks a move away from the traditional focus on upfront capital costs, where Indian players could compete by aggressively undercutting each other. In the industrial sector, Indian end-users are open to new technologies for solving problems relating to substandard discharge quality, and the need to move towards greater water reuse.

The new government has brought anticipation within the industry that more transparent and business-friendly practices will become established. This is, however, currently still some way off.

● *India Water Markets: Opportunities for wastewater treatment in a tougher regulatory climate* is available on 28 August 2015, priced at £2,200/\$4,000. For more information, contact GWI at orders@globalwaterintel.com or visit www.globalwaterintel.com/market-intelligence-reports.

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India Water Markets

Opportunities for wastewater treatment in a tougher regulatory climate

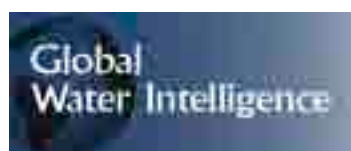
A crackdown on water pollution in India is in motion. New regulations and tougher action on offenders are driving a multi-billion dollar wastewater market set for considerable growth in the coming years.

This report will serve as your guide to the key developments driving investment in the India Water Market. Identify the **best opportunities for your business** and **develop a strong strategy for market entry** with help from in-depth forecasts, procurement model and supply chain analysis.

What does this report offer?

- » Analysis of the most important changes and developments driving investment and activity
- » Outline of how changes in regulations are driving the need for plant upgrades and more advanced technology
- » Clear picture of different investment opportunities stemming from the Ganga River clean-up
- » Overview of which areas have an urgent need for water reuse and desalination
- » Insight into how India's development is driving strong industrial growth and an increased demand for water

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Publication:
28th August 2015

Discounted Price:

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