

SEWAGE TREATMENT MARKET IN INDIA 2019

Key Trends, Government Initiatives, Emerging
Technologies and Upcoming Opportunities

- ❖ Report (PDF)
- ❖ Data-set (Excel)

MUNICIPAL SOLID WASTE IN INDIA 2019

Key Takeaways and The Road Ahead

- ❖ Report (PDF)
- ❖ Data-set (Excel)

Subscribe Now

Save 10 per cent on orders and payments received before or on August 21, 2019

Increasing municipal and industrial activities have resulted in a significant increase in sewage generation in urban areas of the country. Against a requirement of more than 80,000 million litres per day (mld), the present sewage treatment capacity is just about 27,000 mld. In the past few years, the government has launched a number of programmes/schemes for expanding the sewerage network and treatment capacity in the country. The discharge standards for upcoming sewage treatment plants (STPs) have been relaxed. New public-private partnership models such as the hybrid annuity model are being tested. Decentralised STPs have been commissioned, recycling and reuse have gained greater acceptance, energy generation from sewage is receiving greater focus, and advanced membrane-based treatment technologies are being deployed.

Going forward, the investment needs of this sector will be primarily directed towards improving treatment efficiency and encouraging wastewater recycling and reuse, besides the customary focus on asset creation. Over the next couple of years, the sector certainly offers significant opportunities for EPC contractors, and technology and equipment suppliers.

Section I: Market Analysis, Outlook and Opportunities

1. Size and Growth

- ❖ Current Size and Growth in the Past five years
 - Sewage Generation
 - Treatment Capacity
 - Treatment-Generation Gap
- ❖ Institutional Framework
- ❖ Standards and Norms
- ❖ Key Trends
- ❖ Government Initiatives
- ❖ Risks and Challenges
- ❖ Future Outlook and Projections (2019-20 to 2023-24)

2. Recent Developments (In the past 15-18 months)

- ❖ Recent Regulatory Developments
- ❖ Project Completions
- ❖ Recent Contract Awards
- ❖ Projects Approved/Launched/Proposed
- ❖ City-level ICT Initiatives
- ❖ Other Key Developments

3. Project Pipeline and Analysis

- ❖ Overall Project Pipeline
- ❖ Project Pipeline Analysis
 - By Region
 - By State
 - By Stage of Development (ongoing, announced, approved and planned)
 - By Ownership (PPP or EPC)
 - By Completion Period
- ❖ Expected Capacity Addition

4. Future Outlook and Market Opportunities

- ❖ Key Growth Drivers
- ❖ Investment Requirements
- ❖ Market Opportunities
 - EPC Contractors
 - Developers
 - Technology Providers
 - Equipment and Material Suppliers
 - Pipe Manufacturers
 - Consultants
- ❖ Outlook and Projections (2019-20 to 2023-24)

5. Key Government Programmes: Progress So Far, Upcoming Projects and Opportunities

- ❖ Namami Gange Programme
- ❖ Swachh Bharat Mission
- ❖ Smart Cities Mission
- ❖ Atal Mission for Rejuvenation and Urban Transformation

For each of the programmes we will cover project scope, investment requirements, financing sources, current status, key completed projects, upcoming tenders, targets and timelines, etc.

6. Inter-City Comparison: Infrastructure Growth, Plans and Projections

- ❖ Analysis of Sewage Generation
- ❖ Current Sewerage Infrastructure
- ❖ Growth in the Past Five Years
- ❖ Sewage Treatment Technologies Deployed
- ❖ Innovations and Advancements
- ❖ Recycle and Reuse Practices and Initiatives
- ❖ Key Completed Projects
- ❖ Key Ongoing Projects
- ❖ Capacity Addition Plans

This chapter will feature detailed information and analysis of the sewerage sector in 18-20 cities. These are Ahmedabad, Bengaluru, Bhopal, Bhubaneshwar, Chennai, Cuttack, Delhi, Gurugram, Hyderabad, Indore, Jaipur, Kolkata, Mumbai, Nagpur, Pune, Pimpri-Chinchwad, Rajkot, Surat, Varanasi and Vadodara.

7. Profiles of Top 50 Upcoming Projects

- ❖ Recently Awarded
- ❖ Under Bidding
- ❖ Announced
- ❖ Approved

Each project profile will provide information on project scope, location, cost, capacity, implementation agency, developer/EPC contractor, funding sources, expected date of completion, detailed status and opportunities for stakeholders.

8. Investment Trends and Outlook

- ❖ Key Funding Sources
- ❖ Union Budget 2019-20: Announcements and Expected Impact
- ❖ Government Investment Trends
- ❖ New and Innovative Funding Sources (municipal bonds, etc.)
- ❖ The PPP Experience and Potential
 - Formats and Models
 - The Experience So Far
 - Key Projects (completed and ongoing)
 - Future Outlook and Potential

- ❖ Key Risks and Challenges
- ❖ Investment Outlook (till 2023-24)
- ❖ Top Cities to Invest In

9. The Experience and Opportunities Under the Hybrid Annuity Model

- ❖ Salient Features
- ❖ The Experience So Far
- ❖ Key Completed projects
- ❖ Key Ongoing Projects
- ❖ Risks and Challenges
- ❖ Upcoming Opportunities

10. Cost Structures, Tariff Trends and Project Returns

- ❖ Cost Economics of Wastewater Treatment Plants (WWTPs)
- ❖ Capex and Opex Requirements
- ❖ Trends in Sewerage Tax and Surcharge
- ❖ Tariff Reforms Proposed by the Government
- ❖ Return Analysis
- ❖ Market for Byproducts (sludge, treated wastewater, electricity, etc)
- ❖ Issues and Concerns

11. Key Private Players (domestic and foreign)

- ❖ Industry Structure
- ❖ Contracting Practices and Experience
- ❖ Key Players (indian and global)
- ❖ Project Portfolio
 - Key Completed Projects
 - Key Ongoing Projects
- ❖ Financial Performance
- ❖ Key Industry Concerns
- ❖ Future Plans

SECTION II: NEW FOCUS AREAS

12. Decentralised Sewerage System

- ❖ Salient Features
- ❖ The Experience So far/Current Deployment
- ❖ Capital Cost Requirements
- ❖ Select Case Studies
- ❖ Key Advantages
- ❖ Constraining Factors
- ❖ Future Outlook

13. Energy From Sewage

- ❖ Existing Capacity and Plants
- ❖ Relevant Technologies
- ❖ Key Projects (completed and ongoing)
- ❖ Energy Generation
- ❖ Future Potential

14. Recycle and Reuse Practices

- ❖ Current Practices
- ❖ Standards and Norms for Reuse
- ❖ Relevant Technologies
- ❖ Key Recycle and Reuse Facilities
- ❖ Key Consumers of Recycled Wastewater
- ❖ Issues and Challenges
- ❖ Future Potential

15. Focus on Industrial Effluent Management

- ❖ Current Effluent Generation
- ❖ Discharge Standards and Norms
- ❖ Existing Treatment Facilities
- ❖ Key Ongoing and Upcoming Effluent Treatment Plants
- ❖ Recycle and Reuse Practices
- ❖ Innovations and Advancements
- ❖ Segment Outlook

SECTION III: TECHNOLOGY AND EQUIPMENT

16. Treatment Technologies and Asset Management

- ❖ Salient Features of Key Technologies in Use (cost, footprint, level of treatment, quality of treated sewage, residue, etc.)
- ❖ Current Capacity and Key Plants
- ❖ Technology Trends and Advancements
- ❖ Automation and Instrumentation Initiatives (SCADA, GIS, Sensors, etc.)
- ❖ Segment Outlook

17. Emerging Equipment Requirements

- ❖ Equipment Market Size and Growth
- ❖ Equipment Requirements (flow meters, pumps, pipes, valves, sensors, etc.)
- ❖ Major Players
- ❖ Innovations and Advancements
- ❖ Future Demand Projections

SECTION IV: DATABASE OF KEY PROJECTS

The database will be a compilation of upcoming projects (ongoing and planned) in the sector including sewage treatment facilities (WWTPS), sewage pumping stations, sewage pipelines, recycle and reuse facilities, and effluent treatment plants with details on scope, location, cost, capacity, funding sources, implementing agency, contractor (wherever available), current status, expected date of completion, etc

In the past few years, the government has made a number of concerted efforts to improve waste management practices through flagship schemes such as the Swachh Bharat Mission, Smart Cities Mission, and Atal Mission for Rejuvenation and Urban Transformation. The capabilities of urban local bodies (ULBs) in segregating, recycling and reusing waste have been strengthened. Steps to promote bio-degradable and recyclable substitutes for non-biodegradable materials have been taken. ULBs are recognising and practising reduce-reuse-recycle (3R) or reduce-reuse-recycle-replace (4R) concepts. The emphasis on scientific disposal has also increased. Private sector continues to play a key role in project implementation.

Having said that, there are still a large number of utilities that continue to follow outdated management and service delivery processes. In the next couple of years, increased use of newer technologies and applications will make the municipal solid waste management segment more promising for various stakeholders. The sector will provide sizeable opportunities for developers, contractors, equipment and technology providers, consultants, etc.

SECTION I: MARKET ANALYSIS, OUTLOOK AND OPPORTUNITIES

1. Size and Growth

- ❖ MSW Generation and Growth in the Past Five Years
- ❖ Institutional Framework
- ❖ Policy and Regulatory Framework
- ❖ Key Trends
- ❖ Government Initiatives
- ❖ Risks and Challenges
- ❖ Future Outlook and Projections (2019-20 to 2023-24)

2. Recent Developments (in the past 15-18 months)

- ❖ Recent Policy and Regulatory Developments
- ❖ Project Completions
- ❖ Recent Contract Awards
- ❖ Projects Approved/Launched/Proposed
- ❖ City-level Smart Waste Management Initiatives
- ❖ Other Key Developments

3. Project Pipeline and Analysis

- ❖ Overall Project Pipeline
- ❖ Project Pipeline Analysis
 - By Region
 - By State
 - By Stage of Development (ongoing, announced, approved and planned)
 - By Ownership (PPP or EPC)
 - By Completion Period
- ❖ Expected Capacity Addition
- ❖ Top Cities to Invest In

4. Sector Outlook and Market Opportunities

- ❖ Key Growth Drivers
- ❖ Potential Challenges
- ❖ Investment Requirements
- ❖ Market Opportunities
 - EPC Contractors
 - Developers
 - Technology Providers
 - Equipment and Material Suppliers
 - Smart Bins Manufacturers
 - Consultants
- ❖ Projections for Waste Generation (2019-20 to 2023-24)

5. Key Government Programmes: Progress So Far, Upcoming Projects and Opportunities

- ❖ Namami Gange Programme
- ❖ Swachh Bharat Mission
- ❖ Smart Cities Mission
- ❖ Atal Mission for Rejuvenation and Urban Transformation

For each of the programmes we will cover project scope, investment requirements, financing sources, current status, key completed projects, upcoming tenders, targets and timelines, etc.

6. Inter-City Comparison: Infrastructure Growth, Plans and Projections

- ❖ Analysis of MSW Generation
- ❖ Current MSW Management Infrastructure (collection, transportation and treatment)
- ❖ Growth in the Past Five Years
- ❖ Current Treatment Technology Deployment
- ❖ Innovations and Advancements
- ❖ Recycle, Reduce and Reuse (3R) Practices and Initiatives
- ❖ Key Completed Projects
- ❖ Key Ongoing Projects
- ❖ Capacity Addition Plans

This chapter will feature detailed information and analysis of the MSW sector in 18-20 cities. These are Ahmedabad, Bengaluru, Bhopal, Bhubaneswar, Chennai, Cuttack, Delhi, Gurugram, Hyderabad, Indore, Jaipur, Kolkata, Mumbai, Nagpur, Pune, Pimpri-Chinchwad, Rajkot, Surat, Varanasi and Vadodara.

7. Profiles of Top 50 Upcoming Projects

- ❖ Recently Awarded
- ❖ Under Bidding
- ❖ Approved
- ❖ Announced

Each project profile will provide information on project scope, location, cost, capacity, implementation agency, developer/EPC contractor, funding sources, expected date of completion, detailed status and opportunities for stakeholders.

8. Costs, Revenues and Financing

- ❖ Key Financing Sources
- ❖ Capex and Opex Requirements
- ❖ Revenue Sources
- ❖ Project IRRs
- ❖ Market for Residues
- ❖ Recent PE Deals

- ❖ Investment Requirements (till 2023-24)
- ❖ Business Risks and Challenges

9. Focus on PPP: Experience and Future Opportunities

- ❖ Formats and Models
- ❖ The Experience So Far
- ❖ New Revenue Streams
- ❖ PPP Project Portfolio
 - Key Completed Projects
 - Key Ongoing Projects
- ❖ Key Success Factors and Learnings
- ❖ PPP Potential and Outlook

10. Key Private Players

- ❖ Industry Structure
- ❖ Contracting Practices and Experience
- ❖ Key Players (Indian and global)
- ❖ Project Portfolio
 - Key Completed Projects
 - Key Ongoing Projects
- ❖ Financial Performance
- ❖ Key Industry Concerns
- ❖ Future Plans

SECTION II: FOCUS ON MSW MANAGEMENT INFRASTRUCTURE: CURRENT STATE, TECHNOLOGY DEPLOYMENT AND FUTURE REQUIREMENTS

11. Collection and Transportation

- ❖ Current Practices
- ❖ Type of Transportation Infrastructure Deployed (e-rickshaws, carts, trucks, etc.)
- ❖ Smart Initiatives at the City Level
- ❖ New Trends and Advancements
- ❖ Investment Requirements (2019-20 to 2023-24)
- ❖ Issues and Concerns

12. Treatment and Disposal

- ❖ Status of Waste Processing
- ❖ Relevant Treatment Technologies
- ❖ Disposal Practices (landfilling, 3R, etc.)
- ❖ Smart Initiatives at the City Level
- ❖ New Trends and Advancements
- ❖ Investment Requirements (2019-20 to 2023-24)
- ❖ Issues and Challenges

13. Waste-to-Energy

- ❖ Existing Capacity
- ❖ Relevant Treatment Technologies
- ❖ Government Initiatives
- ❖ Revenue Stream and Cost Recovery

- ❖ Market for Green Fuels (bio-CNG, bio-diesel, etc.)
- ❖ Key Projects (completed and ongoing)
- ❖ Future Potential
- ❖ Issues and Challenges

14. Integrated Solid Waste Management (ISWM)

- ❖ Salient Features
- ❖ The Experience So Far
- ❖ Government Initiatives to Promote ISWM
- ❖ City-Level Initiatives
- ❖ Key Benefits
- ❖ Issues and Challenges
- ❖ Future Prospects

SECTION III: TECHNOLOGY AND EQUIPMENT

15. O&M and Asset Management Technologies

- ❖ Current O&M Practices
- ❖ Smart Technologies Deployed for Asset Management (SCADA, RFID, GIS, Sensors, etc.)
- ❖ Current City-Level Practices
- ❖ Role of Private Players
- ❖ Technology Trends and Advancements
- ❖ Planned ULB Initiatives
- ❖ Segment Outlook

16. Emerging Equipment Requirements

- ❖ Equipment Market Size and Growth
- ❖ Equipment Requirements (smart bins, sensor, trucks, e-rickshaws, carts, etc.)
- ❖ Major Players
- ❖ Innovations and Advancements
- ❖ Future Demand Projections

SECTION IV: DATABASE OF KEY PROJECTS

The database will be a compilation of upcoming solid waste management projects (ongoing and planned) in the sector with details on scope, location, cost, capacity, funding sources, implementing agency, contractor (wherever available), current status, expected date of completion, etc.

I would like to purchase the "Sewage Treatment Market in India 2019" report:

I would like to purchase the "Municipal Solid Waste in India 2019" report:

Format (PDF)	By August 21, 2019	After August 21, 2019
Sewage Treatment Market in India 2019		
Site Licence (Single Location)	Rs 67,500	Rs 75,000
GST @ 18%	Rs 12,150	Rs 13,500
Total	<input type="checkbox"/> Rs 79,650	<input type="checkbox"/> Rs 88,500
<hr/>		
Enterprise Licence (Multiple Locations)	Rs 1,01,250	Rs 1,12,500
GST @ 18%	Rs 18,225	Rs 20,250
Total	<input type="checkbox"/> Rs 1,19,475	<input type="checkbox"/> Rs 1,32,750
<hr/>		
Municipal Solid Waste in India 2019		
Site Licence (Single Location)	Rs 67,500	Rs 75,000
GST @ 18%	Rs 12,150	Rs 13,500
Total	<input type="checkbox"/> Rs 79,650	<input type="checkbox"/> Rs 88,500
<hr/>		
Enterprise Licence (Multiple Locations)	Rs 1,01,250	Rs 1,12,500
GST @ 18%	Rs 18,225	Rs 20,250
Total	<input type="checkbox"/> Rs 1,19,475	<input type="checkbox"/> Rs 1,32,750
<hr/>		
Sewage Treatment Market in India 2019 + Municipal Solid Waste in India 2019 (20% discount on combined purchase)		
Site Licence (Single Location)	Rs 1,21,500	Rs 1,35,000
GST (18%)	Rs 21,870	Rs 24,300
Total	<input type="checkbox"/> Rs 1,43,370	<input type="checkbox"/> Rs 1,59,300
<hr/>		
Enterprise Licence (Multiple Locations)	Rs 1,82,250	Rs 2,02,500
GST (18%)	Rs 32,805	Rs 36,450
Total	<input type="checkbox"/> Rs 2,15,055	<input type="checkbox"/> Rs 2,38,950

PACKAGE

I am enclosing a cheque/demand draft for Rs _____, vide cheque/demand draft no. _____ drawn on _____ dated _____ in favour of "India Infrastructure Publishing Pvt. Ltd."

Signature

.....

Name (Block Letters) _____

Designation _____

Company _____

Mailing Address _____

Telephone _____ Mobile _____

Fax _____

E-mail _____

Wire transfer details:

Beneficiary :	India Infrastructure Publishing Pvt. Ltd.	Account No. :	094179587002
Bank Name :	The Hongkong and Shanghai Banking Corporation Ltd	Swift Code :	HSBCINBB
Bank Address :	R-47, Greater Kailash – 1, New Delhi - 110048	IFSC Code :	HSBC0110006

Contact details:

Pritish Verma

Manager – Information Products

India Infrastructure Publishing Pvt. Ltd.

B-17, Qutab Institutional Area, New Delhi 110016, India; Tel: +91 11 46012963, 41034600, 41034601

Mobile: +91 9910833878; Fax: +91 11 2653 1196; Email: pritish.verma@indiainfrastructure.com