2nd Annual Conference on
SMART WASTE MANAGEMENT
July 3, 2019
The Lalit, New Delhi

2nd Annual Conference on
WASTE TO ENERGY AND FUEL
July 4, 2019
The Lalit, New Delhi

5th Conference on
SEWAGE TREATMENT PLANTS
July 5, 2019
The Lalit, New Delhi

Organisers:
Indian Infrastructure  Smart Utilities  RenewableWatch
Mission

- In the past few years, information technology (IT) usage and penetration in the waste management segment have been growing with the deployment of innovative technology solutions.
- The technology revolution is presenting the urban local bodies (ULBs) with many new possibilities and opportunities. IT systems such as geographic information systems, supervisory control and data acquisition (SCADA), RFID-based smart bins, geo-tagging, and vehicle tracking systems have been deployed for better control and monitoring.
- Further, the capabilities of 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.
- The government too is making concerted efforts to improve waste management practices through flagship schemes such as the Swachh Bharat Mission, the Smart Cities Mission, and the Atal Mission for Rejuvenation and Urban Transformation. In the past one to two years, there have been some visible improvements in MSW management at the city level, in terms of projects undertaken, capacity addition, and technologies and best practices adopted.
- The level of private participation in the sector continues to increase. Importantly, the entry of the private sector in waste management is not just limited to the metropolitan cities; it is being witnessed in smaller towns and cities such as Kanpur, Ranchi and Mathura.
- Having said that, there are still a large number of utilities that continue to follow outdated management and service delivery processes. Thus, the investment requirement is huge and the sector presents sizeable opportunities. As business imperatives change, newer technologies and applications will be required to cater to the future demand. Also, inherent challenges such as the absence of data, inefficiencies in user charges and poor financial health of ULBs will need proactive attention.
- The mission of this conference is to examine the state of the MSW sector in India, highlight new smart waste management initiatives and projects, and discuss new opportunities and key challenges. The conference will also showcase noteworthy projects and promising technologies.

AGENDA/STRUCTURE

TRENDS, DEVELOPMENTS AND OUTLOOK
- What are the key trends and developments in the smart waste management segment?
- What is the future outlook? What are the new opportunities?
- What are the key issues and challenges?

GOVERNMENT PERSPECTIVE: SPOTLIGHT ON THE SMART CITIES MISSION
- What are the government’s plans and perspective with regard to smart waste management in India?
- What is the scope of the mission? What has been the progress so far?
- What are the specific initiatives for smart waste management? What are some of the noteworthy projects in this regard?
- What are the new and upcoming opportunities? What are the key issues and challenges?

ULB PERSPECTIVE
- What are the initiatives that have been taken for smart waste management? What has been the experience so far?
- What are the emerging requirements and opportunities?
- What are the key issues? How are they being addressed?

EMERGING TECHNOLOGIES AND SOLUTIONS I: COLLECTION AND TRANSPORTATION
- What are the smart solutions and technologies for waste collection and transportation?
- What are some of the noteworthy initiatives in this regard? What are the upcoming opportunities?
- What are the global best practices? Which of these can be adopted by Indian cities?

EMERGING TECHNOLOGIES AND SOLUTIONS II: PROCESSING AND TREATMENT
- What are the smart solutions and technologies for waste processing and treatment?
- What are some of the noteworthy initiatives? What are the upcoming opportunities?
- What are the global best practices? Which of these can be adopted by Indian cities?

EMERGING TECHNOLOGIES AND SOLUTIONS III: DISPOSAL AND RECYCLING
- What are the smart solutions and technologies for waste disposal and recycling?
- What are some of the noteworthy initiatives? What are the upcoming opportunities?
- What are the global best practices? Which of these can be adopted by Indian cities?

ROLE OF DIGITALISATION IN ASSET MANAGEMENT
- What is the role of IT and automation systems in the O&M of waste management assets?
- What are the most promising technologies (GIS, SCADA, smart bins, etc.)? What are the emerging requirements?
- What are the global advancements? What lessons can be learnt?

EQUIPMENT SHOWCASE
- What are the recent trends and developments in the equipment segment?
- How is the industry gearing up to meet the emerging requirements for smart waste management?
- What are the key issues and challenges?

PROJECT SHOWCASE
- What are some of the noteworthy smart waste management projects?
- What are the advanced technologies and solutions deployed?
- What are the key challenges and what lessons can be learnt?

Target Audience: The conference is targeted at officials and managers from:

- ULBs/Municipalities
- Waste management companies
- Waste collection companies
- Waste sorting, recycling and service companies
- Waste transportation companies
- Waste storage and handling companies
- Certification and inspection companies
- Policymakers and regulators
- Equipment manufacturers
- Public health departments
- Technology providers
- Financial institutions
- Facility management companies
- Relevant government agencies
- Consulting organisations
- State infrastructure development corporations
- Environment consulting and solutions firms
- Pollution control boards (central and state)
- Research and development organisations
- Etc.
The experience of the waste-to-energy (WtE) segment in India has been mixed. While the uptake of WtE projects has increased in the recent past, capacity addition in the segment has not picked up pace. So far, only 8 per cent of the total potential of 1,100 MW per day has been harnessed.

Thus, the WtE segment in India holds immense untapped potential. The government, over the past couple of years, has attempted to revive the segment through programmes such as the Swachh Bharat Mission and the Smart Cities Mission. The recently revised tariff policy mandates power distributors to buy the entire electricity generated by WtE plants in a state. The remunerative tariffs set by the CERC have also helped increase investor interest in this segment.

Meanwhile, the pace of technology adoption in the segment has improved. Urban local bodies (ULBs) are deploying advanced control and automation solutions for WtE facilities. Advanced treatment technologies such as bio-methanation, gasification/pyrolysis and incineration are gaining traction in the municipal and industrial segments.

Private sector funding has also been a driving force for financing WtE projects in the country. Companies such as the V-Guard Group and GJ Nature Care and Energy have already invested in the segment whereas others, such as Switzerland-based Satarem and France-based 3Wayste SAS, have some projects in the pipeline.

Meanwhile, ULBs are testing new business models to maintain the profitability and viability of WtE projects. Waste utilisation in a more productive manner, such as converting it into green fuels, is also being explored.

Net, net, India's WtE segment is maturing gradually. The investment requirement is huge and the segment presents sizeable opportunities. A number of new initiatives are on the radar, which will make the WtE segment more promising for various stakeholders. Key among these is NITI Aayog's plan to set up a WtE authority, which may ease problems pertaining to clearances, departmental coordination, etc. Nonetheless, for a major shift to occur, there is a need to address issues such as the absence of segregation of waste at source, financial constraints, shortage of skilled manpower, and lack of technical and professional expertise with municipal agencies.

The mission of this conference is to examine the state of the WtE segment in India, analyse key trends and developments, highlight new government programmes, and discuss new opportunities and key challenges. The conference will also showcase noteworthy projects and promising technologies.
Mission

- Increasing municipal and industrial activities have resulted in a significant increase in sewage generation in urban areas of the country. However, the addition in collection and treatment infrastructure has not kept pace with the growth in sewage generation. Against a requirement of more than 80,000 million litres per day (mld), the present sewage treatment capacity is just about 27,000 mld. The operational treatment capacity is constrained by limited feedstock, defunct machinery, and inadequate capacity and capability with ULBs to operate sewage treatment plants (STPs).
- Given the current state of the sector, the government has launched a number of programmes/schemes such as the Atal Mission for Rejuvenation and Urban Transformation of 500 habitations, the Namami Gange Mission and the Swachh Bharat Mission for expanding the sewerage network and treatment capacity in the country. The discharge standards for upcoming STPs have been relaxed. New public-private partnership models such as the hybrid annuity model are being tested for the development of STPs. A number of incentives and policy structures have been introduced by the municipal agencies as well as the state governments to encourage different stakeholders to recycle and reuse wastewater.
- Over the course of the past few years, the sector has witnessed some important trends. 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.
- Industries are also opening up to the idea of deploying advanced technologies to treat effluents, as well as recycle and reuse them for industrial purposes and greenbelt development. Further, advanced sewage technologies such as sequencing batch reactor (SBR), moving bed biofilm reactor (MBBR) and membrane bioreactor (MBR) are being widely utilised to improve the quality of treated sewage, and optimise O&M costs and land requirements.
- Over the next couple of years, investment in the sector will be directed towards improving treatment efficiency and encouraging wastewater recycling and reuse, besides the customary focus on asset creation. The challenge will lie in expanding network coverage and encouraging a large number of civic agencies to implement these initiatives. Eventually, the successful and timely completion of projects will depend on project structuring, political support, credible and updated data systems, revenue streams and the financial health of ULBs.
- The mission of this conference is to discuss the key trends and developments, and highlight the opportunities and challenges in the wastewater treatment and management segment. The conference will provide a platform to showcase recent innovations in technology and equipment, noteworthy projects and best practices.

AGENDA/STRUCTURE

TRENDS, DEVELOPMENTS AND OUTLOOK
- What are the key developments in the wastewater treatment and management segment?
- What are the key programmes and incentives to promote wastewater treatment and management (AMRUT, Smart Cities Mission, Swachh Bharat Mission, etc.)?
- What is the future outlook? What are the key issues and challenges?

ULB PERSPECTIVE
- What are the initiatives taken in the wastewater management space? What has been the experience so far?
- What are the emerging requirements and opportunities?
- What are the key issues? How are they being addressed?

UPDATE ON THE NAMAMI GANGE MISSION
- What is the scope of the mission? What is the progress so far?
- What are the specific initiatives for wastewater management? What are some of the noteworthy projects in this regard?
- What are the upcoming opportunities? What are the mission targets and timelines?

POTENTIAL FOR PUBLIC-PRIVATE PARTNERSHIPS
- What has been the PPP experience in the wastewater management segment? What are the current PPP formats and models (HAM, BOT, BOOT, DBFOT, etc.)?
- Which are some of the noteworthy PPP projects? What lessons can be learnt from these?
- What are the key risks and challenges? What are the PPP opportunities going forward?

COST ECONOMICS AND MARKET FOR RESIDUES
- What factors determine the viability of wastewater treatment and management projects?
- What are the new and innovative funding sources for these projects?
- What types of residues or byproducts are generated from STPs? What steps are being taken to market these products?
- What are the revenues that can be generated from these products?

SPOTLIGHT ON DECENTRALISED WASTEWATER TREATMENT
- What are the key benefits of a decentralised wastewater management system in terms of cost, O&M and financial sustainability?
- What has been the experience so far? What are some of the noteworthy projects?
- What are the issues, challenges and limitations?

FOCUS ON TREATMENT TECHNOLOGY, AUTOMATION AND INSTRUMENTATION
- What are the most prevalent wastewater treatment technologies? Which technologies have been more successful (in terms of cost effectiveness, footprint, plant performance, quality of treatment, etc.)?
- What are the various products and technology solutions for field instrumentation and control? How has been the uptake of such solutions so far?
- What are the emerging trends and advancements in this space? What are the global best practices?

FOCUS ON COLLECTION INFRASTRUCTURE: NEW TRENDS, ADVANCEMENTS AND NOTEWORTHY INITIATIVES
- What is the current state of wastewater collection infrastructure in India? What are the new trends and advancements in this regard?
- What are some of the noteworthy initiatives in this field? What lessons can be learnt from these?
- What are the upcoming projects and opportunities?

RECYCLE AND REUSE: NOTEWORTHY INITIATIVES AND FUTURE POTENTIAL
- How viable is wastewater recycling in terms of costs, quality, sustainability, etc.?
- How has been the uptake of such solutions? What are some of the noteworthy initiatives in this field?
- What is the future potential? What are the key challenges?

INDUSTRIAL EFFLUENT MANAGEMENT: CURRENT PRACTICES AND NEW INITIATIVES
- What are the current effluent treatment practices followed by industrial consumers?
- What are the new trends and advancements in terms of treatment technology, recycle and reuse, zero liquid discharge, etc.?
- What are some of the noteworthy initiatives? What lessons can be learnt from these?

EQUIPMENT SHOWCASE (PIPES, PUMPS, VALVES, BULK FLOW METERS, ULTRASONIC METERS, ETC.)
- What are the emerging trends and advancements in the equipment segment?
- How is the industry gearing up to meet the emerging equipment requirements for wastewater treatment and management?
- What are the key issues and challenges?
SMART WASTE MANAGEMENT


WASTE TO ENERGY & FUEL


SEWAGE TREATMENT PLANTS

Ahmedabad Municipal Corporation; Aparna Constructions and Estates Pvt. Ltd; AUMA India Private Limited; Bangalore Water Supply & Sewerage Board; BASF India Limited; Bharat Heavy Electricals Ltd; Black & Veatch Private Limited; Bosch Limited; C.R.I Pumps Private Limited; Consortium for DEWATS Dissemination Society; Creative Entrepreneurs Pvt. Ltd; CRISIL Infrastructure Advisory; CSIR-IGIB; Delhi Jal Board; Delhi State Industrial and Infrastructure Development Corporation; Dyal Singh College University of Delhi; Evio Private Limited; Forbes Marshall; Gujarat International Finance Tec-City Company Limited; IFC; IIT Delhi; Jain Irrigation Systems Ltd; Jash Engineering Limited; Kanpur Municipal Corporation; Kishore Pumps Pvt. Ltd; Kohler India Corp. Pvt. Ltd; KSB Pump Ltd; L&T Valves Limited; Mahagenco (MSPG) Mumbai; McElroy Sales and Service India Private Limited; Ministry of Urban Development; Nagar Palika Parishad Kannauj; National Institute of Urban Affairs; National Mission For Clean Ganga, MOWR; NDMC; NJS Consultants Co. Ltd; NTPC Limited; Oil and Natural Gas Corporation Ltd; Organica Water Pvt. Ltd; Pimpri Chinchwad Municipal Corporation; Praj Industries Limited; Punjab Pollution Control Board; Rex Polyextrusion Pvt. Ltd; Schwing Stetter (India) Private Limited; SFC Environmental Technologies Pvt. Ltd; Shah Technical Consultants Pvt. Ltd; Shubham Acqualink (India) Pvt. Ltd; SMS Envocare Limited; SMS Infrastructure Limited; TATA Projects Limited; Tata Services Limited; Technofab Engineering Limited; Thane Municipal Corporation; The World Bank; Town and Country Planning Organisation Ministry of Urban Development; Tractors India Private Limited; UP Jal Nigam; VA Tech Wabag Ltd; Vishvaraj Infrastructure Ltd; Voltas Limited; WaterHealth India Pvt. Ltd; WILO Mather and Platt Pumps Pvt. Ltd; Wipro Enterprises Pvt. Ltd (Wipro Water), etc.
REGISTRATION FORM

☐ I would like to register for the “SMART WASTE MANAGEMENT” (July 3, 2019, The Lalit, New Delhi)
☐ I would like to register for the “WASTE TO ENERGY AND FUEL” (July 4, 2019, The Lalit, New Delhi)
☐ I would like to register for the “SEWAGE TREATMENT PLANTS” (July 5, 2019, The Lalit, New Delhi)
☐ I would like to register for all the conferences

I would like to register for the conference. I am enclosing Rs___________________ vide cheque/demand draft no.___________________ drawn on ______________________ dated ______________ Company GST No. _______________ in favour of India Infrastructure Publishing Pvt. Ltd. payable at New Delhi.

Please send wire transfer payments to:
Beneficiary: India Infrastructure Publishing Private Limited
Bank Name: The Hongkong and Shanghai Banking Corporation Ltd
Bank Address: R-47, Greater Kailash-1, New Delhi-110048, India
Bank Account No. 094179587002
Swift Code: HSBCINBB
IFSC Code: HSBC0110006
GSTIN 07AAACI5880R1ZV

Name(s)/Designation (IN BLOCK LETTERS)
Company
Mailing Address
Phone
Mobile
Fax
Email

REGISTRATION FEE

<table>
<thead>
<tr>
<th>Delegates</th>
<th>INR</th>
<th>GST @ 18%</th>
<th>Total INR</th>
<th>Total USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANY ONE CONFERENCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One delegate</td>
<td>15,000</td>
<td>2,700</td>
<td>17,700</td>
<td>295</td>
</tr>
<tr>
<td>Two delegates</td>
<td>27,000</td>
<td>4,860</td>
<td>31,860</td>
<td>531</td>
</tr>
<tr>
<td>Three delegates</td>
<td>39,000</td>
<td>7,020</td>
<td>46,020</td>
<td>767</td>
</tr>
<tr>
<td>ANY TWO CONFERENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One delegate</td>
<td>22,500</td>
<td>4,050</td>
<td>26,550</td>
<td>443</td>
</tr>
<tr>
<td>Two delegates</td>
<td>34,500</td>
<td>6,210</td>
<td>40,710</td>
<td>679</td>
</tr>
<tr>
<td>Three delegates</td>
<td>46,500</td>
<td>8,370</td>
<td>54,870</td>
<td>915</td>
</tr>
<tr>
<td>ALL THREE CONFERENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One delegate</td>
<td>30,000</td>
<td>5,400</td>
<td>35,400</td>
<td>590</td>
</tr>
<tr>
<td>Two delegates</td>
<td>42,000</td>
<td>7,560</td>
<td>49,560</td>
<td>826</td>
</tr>
<tr>
<td>Three delegates</td>
<td>54,000</td>
<td>9,720</td>
<td>63,720</td>
<td>1,082</td>
</tr>
</tbody>
</table>

There is a special low fee for urban local bodies, state utilities, regulatory authorities, academic and research institutions and government agencies (not public sector corporates):
- INR 3,000 per participant for any one conference
- INR 5,000 per participant for any two conferences
- INR 7,000 per participant for all three conferences

Payment Policy:
- Delegate fee is inclusive of 18 per cent GST.
- Full payment must be received prior to the conference.
- Conference fees cannot be substituted for any other product or service being extended by India Infrastructure Publishing Pvt. Ltd.
- Conference fee includes lunch, tea/coffee and conference material.

For more information, contact: Nishpreet Bhasin
Tel: +91-11-43520056, 41034615 | Mob: +91-9953452964
Email: nishpreet.bhasin@indiainfrastructure.com
Conference Cell, India Infrastructure Publishing Pvt. Ltd., B-17, Qutab Institutional Area, New Delhi 110016.
Fax: +91-11-26531196, 46038149 | E-mail: conferencecell@indiainfrastructure.com