

Message from the Managing Director's Desk

Dear Friends,

IL&FS IDC is pleased to present the second issue of its newsletter after the successful launch of its inaugural issue in February 2008. This issue will prove to be a valuable resource on the Management of Municipal Solid Waste.



India, one of the fastest growing economies in the world, faces a challenge of MSW Management. To address the issue, the Indian Government enacted MSW (Handling & Management) Rules in the year 2000 with a view to improve the present scenario. All Urban Local Bodies (ULBs) were supposed to have MSW management systems by end of year 2003. Being engrossed in their day-to-day activities and due to typical nature of Indian MSW, no single ULBs could achieve the targets. The Courts of Law in India are now issuing summons to ULBs for non compliance with the law of the land.

Considering limitations of ULBs and alarming potential impacts, IL&FS IDC, in the year 2004, took the initiative of bringing together experts in the field and working out an optimum solution to the problem. IL&FS IDC could develop an integrated concept to waste management and also presented the concept to one of the Experts Committees constituted by the Supreme Court of India. IL&FS IDC recognised the limitation of the ULBs and thus designed the concept involving their limited resource contribution.

This edition of the Newsletter focuses on the opportunities available in the Management of Municipal Solid Waste and the successful projectization of one such opportunity in the form of the Timarpur-Okhla integrated municipal waste processing facility, in the state of Delhi.

I hope you will enjoy reading IL&FS IDC Interface and look forward to receiving your feedback and suggestions.

Dinesh Kumar Mittal, IAS

Solid waste generated (Tons per Day) in India's top 10 cities

1	Greater Mumbai	5320
2	Kolkata	2653
3	Delhi	5922
4	Chennai	3036
5	Bangalore	1669
6	Hyderabad	2187
7	Ahmedabad	1302
8	Pune	1175
9	Surat	1000
10	Kanpur	1100

(Source : Central Pollution Control Board 2006-07)

Message from Chief Editor's Desk

The problem of MSW management is much more acute in metropolitan cities like Delhi where land available for landfill sites is scarce. Presently, Delhi generates approx. 7,000 MT of MSW every day, which is likely to increase to 18,000 MT per day by 2021.



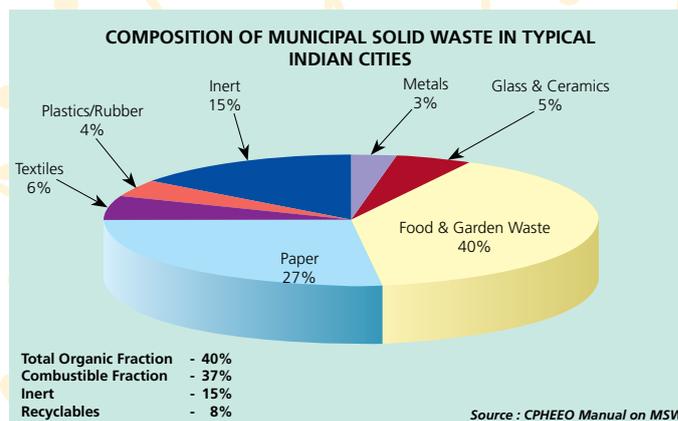
The integrated approach for MSW management developed by IL&FS IDC aims at tying up various aspects of MSW management and usage of a mix of technologies for processing, towards better management of MSW. With a view to support ULBs for waste management, IL&FS IDC created a team of experts and a dedicated Fund with support of Technology Development Board (TDB) Government of India and Andhra Pradesh Technology Development & Promotion Centre (APTDC). The Fund supports segregated waste collection activities from waste generators and provides the necessary resources during the project development phase.

The integrated approach to waste management ensures that all aspects of waste management i.e. collection, transportation, processing and disposal are carried out in a scientific manner with special emphasis on processing through a mix of technologies. Each component of waste gets its due treatment; composting/ biomethanation for segregated organic waste, Refuse Derived Fuel (RDF) for mixed waste, inert management for inert matter and likewise. The concept ensures that least waste goes to the landfill thereby promoting recycle and recovery and also reducing load on landfills.

Accordingly, IL&FS IDC joined hands with some of the progressive ULBs of India for developing waste management projects for them including Delhi, Guwahati, Patna, Ahmedabad, Ajmer, Bikaner, Udaipur, etc.

In this edition, we take you through the success story of Timarpur-Okhla waste processing project under implementation in Delhi, highlighting the key drivers in the success of the project and the issues faced.

Haziq Beg, Senior Vice President



Some facts on the Municipal Solid Waste

Urban India generates about 1.0 lakh MT/day of Municipal Solid Waste and it requires more than 1500 Acres of land/year for land fill. This is a very imposing land demand, in a land- scarce India. Despite the fact that the urban local bodies utilize major part of its staff and resources for collection and disposal of MSW, nearly half of MSW generated remains unattended in many cities. Out of the funds spent on MSW management, ULBs typically spend about 65% funds on collection, 30% on transportation and a mere 5% on waste disposal. There is thus an urgent need to address the problem with a more scientific approach than the commonly adopted; crude dumping of MSW.

Proper management of MSW can play significant role in national progress. Not many Municipalities have been able to take desired steps in this direction. MSW Management is a priority of various ongoing funding schemes of Government of India including JNNURM, UIDSSMT and incentives by MNRE for renewable energy.

Presented herewith is a case study of a fructified effort in the proposed direction, under Public Private Partnership (PPP) mode in Delhi.

TIMARPUR-OKHLA : INTEGRATED MUNICIPAL WASTE PROCESSING FACILITY — A SHOWCASE PROJECT

The Municipal Corporation of Delhi (“MCD”) and New Delhi Municipal Council (“NDMC”) together provide municipal services to over 14 million citizens in Delhi. To find an appropriate solution to MSW disposal problem, NDMC and MCD desired to implement on Build, Own, Operate & Transfer (BOOT) basis, an Integrated Municipal Waste Processing Facility (the “Project”) at Timarpur & Okhla in Delhi. IL&FS IDC was mandated to structure the project, evaluate various technologies, carry out project development activities and select suitable developer through competitive bidding.

In association with its technical partners and Government of NCT Delhi (through Delhi Power Company Limited), IL&FS IDC studied in details, the present scenario of waste management in Delhi and after discussions with stakeholders, the following parameters were firmed up for the project, to be jointly taken up at Timarpur & Okhla in Delhi:

- A totally enclosed facility to process 2,050 MT of MSW per day: 1950 MT through RDF route and 100 MT through biomethanation
- Generation of 16 MW of green electricity using RDF and biogas
- Treated sewage to be used as main source of process water
- Project to meet air quality norms that are better than applicable statutory norms

As part of project development the activities carried out involved: site investigation, environment clearances, finalization of concessions agreements, land lease/ license arrangements, water linkages, DPR preparation, characterization of municipal waste, statutory clearances, tying up sale of products, in-principle loan approvals, regulatory clearances etc. Upon completion of the project development activities and approval of regulatory bodies, bids were floated to select the BOOT operator.

Being the first project in India to have such preparation in place at the time of bidding, the project received interests from as many as 35 parties from all over the world including Europe, USA, and other parts of Asia. Finally 6 bids were received (2 foreign parties and 4 Indian parties) and based on the specified criteria, M/s Jindal Urban Infrastructure Limited (JUIL) were selected as the successful bidder for implementing the project. JUIL is a company of well-known Indian corporate group namely M/s Jindal Saw Group Limited having presence in steel pipes and power sector.

Key drivers of Success of the Project

The key driver of success for the project is Project Development (PD). The PD phase of the Project entailed detailed technical studies and reviews, financial evaluation, contractual clarity, risk evaluation and regulatory as well as statutory approvals. The PD phase included:

Technical Studies & Marketing

1. Analysis of all previous initiatives of Waste management and processing in India, particularly waste-to-energy projects
2. Extensive waste characterization studies to assess physical & chemical characteristics of waste delivered at landfill
3. DPR comprising of basic designs & engineering of the Project based on waste characteristics
4. Power evacuation scheme finalization
5. Vetting of the design and engineering by APTDC, Prof PD Grover of IIT Delhi – an authority on the subject of small & medium sized boilers
6. Review of the design, engineering and environmental sustainability aspects by M/s Ramboll of Denmark, a leading global consultant for waste incinerators
7. Environment Impact Assessment Studies
8. Identification of potential vendors and their sensitization

Clean Development Mechanism (CDM) & Financial Structuring

1. PIN & PDD preparation for Carbon benefits & Host Country Approval
2. Registration of the project with UNFCCC to earn 2.6 million CER over ten-years period
3. Appraisal & in principle sanction for funding (debt) by ADB, REC, IREDA, & HUDCO

Contractual Framework

1. Concession Agreement(s) with MCD & NDMC were finalized for supply of waste
2. Land License Agreement for Okhla and Timarpur land for use of land for 25 years
3. Power Purchase Agreement draft approved by regulator
4. Sewage Supply Agreement for supply of treated sewage

Statutory/Regulatory Clearances & Permits

1. Clearance to the Project by Ministry of Environment & Forests (Environmental), Delhi Pollution Control Committee (Consent to Establish & Authorization under MSW Rules)
2. Chimney Height Clearance by Airport Authority of India, Director General of Civil Aviation & Air Force Headquarters
3. NOC by Central Ground Water Board (CGWB), Town & Country Planning (T&CP), Delhi Development Authority (DDA)
4. Approval of bid documents by DERC, GNCTD and BSES



5. Order by DERC permitting tariff bidding under Section 63 of the Electricity Act 2003

Factors resulting in Project Attractiveness

The most significant factor of project attractiveness was the preparedness with which it was floated in the market. Absolute clarity on contractual and regulatory framework mitigated the potential statutory and regulatory risks and resulted in high investors' response in an otherwise dry area i.e. waste management. Added to this, the upside in terms of sale of ready carbon credits ensured a very competitive tariff for the power generated from the Project. Due to the activities undertaken in PD phase, the project was ready for financial closure immediately upon award to the BOOT operator.

INTERVIEW OF THE STAKE HOLDERS

Mr. P.K. Khandelwal,
Superintending Engineer
Municipal Corporation of Delhi (MCD)

Q : What is the significance of the Timarpur Okhla project in the field of energy from Solid waste?

A : MCD envisions moving towards zero residue targets for the NCR of Delhi. Timarpur Okhla Project will be a significant milestone in reducing the waste content going for land filling to 20% of incoming garbage. The successful implementation of the project would mean that we will have to handle only 1400 MT /day waste for land filling of the entire waste collection i.e. 7000MT/day as on date reducing the demand for space for land filling.

Dr. Ramesh Kumar Jalan,
Executive Vice President – Waste
Jindal Urban Infrastructure Limited, New Delhi.

Q : What prompted JUIL to bid for this as flagship project of the Company?

A : JUIL saw significant opportunity to create value for shareholders, to open a new business segment which we believe will grow rapidly in the future, and to contribute to the improvement of living standards in Delhi through an innovative public-private project.

Q : How do you see the future of private sector participation in the MSW sector?

A : While government incentives are decreasing, operational efficiency, better plant design and the availability of carbon credits will help sectoral growth. With consortium partners, JUIL is targeting new business opportunities, which will collectively convert more than 11 million MT per year of India's municipal solid waste into more than 200 MW of clean energy over the next five years.



Mr Rajendra Kumar
Secretary Power
Government of Delhi

Q : How do you perceive MSW as a non-conventional source of energy with respect to Delhi?

A : We are desirous to promote renewable energy projects in the state of Delhi. However, the state being land locked, the potential is limited. With the ever-increasing population and commercial activities in Delhi the management of Municipal Solid Waste (MSW) is critical. The concept of energy generation from MSW is one of the few options available with the State for generation of non-conventional energy.

Q : What are recent steps planned to encourage such ventures?

The successful bidding of Timarpur-Okhla MSW project, with all the stakeholders putting humungous efforts in conceptualizing and developing the project, has been very encouraging. The Government aims to establish number of such MSW processing facilities to tackle entire waste of Delhi. We are also working towards setting up of cattle dung based power biogas based power generation facilities. All these waste based power generation facilities would be able to generate approx 80MW of non-conventional energy, for the power-striven state of Delhi.



Mr. Anurag Goyal
Director Projects
NDMC

Q : What has been NDMC's contribution towards the success of this project?

A : Realizing the critical need for viable waste management interventions in Delhi, NDMC provided land as its equity to the project. A rigorous exercise in the structuring of the concession agreement was carried out with the involvement of all stakeholders within NDMC.

Q : What do you see as IL&FS IDC's value addition towards successful implementation of the project?

A : In my view, there are two major constraints in adopting the PPP approach for a successful project implementation. First, a lack of institutional capacity to undertake the complex bid structuring involved in such projects and second, the highly fragmented decision making and coordination issues within & amongst various agencies.

IL&FS IDC, has aptly addressed both these challenges through the project development approach, without which the Timarpur Okhla project would not have been possible.

PPP PROJECTS AVAILABLE FOR BID (Source : www.ilfsindia.com, www.iidcindia.co.in)

- EOI for Integrated Industrial Area development project at Osmanabad (Last date : 6th October 2008)
- RFP for development of Commercial Zone at Raniganj on BOT basis (Last date : 1st October 2008)
- RFQ for development of Signature property on commercial plot of WBIDFC at New Town, Kolkata (Last date : 15th October 2008)
- EOI for Development of Small Hydro Power Projects in Uttarakhand (Last date : 30th September 2008)
- Invitation to Bid for Development of Small Hydro Power Projects in Uttarakhand (Last date : 23rd September 2008)
- BOOT Opportunity in Delhi Integrated Waste Processing Complex (Last date : 22nd September 2008)
- RFP for operations, maintenance and management of cold chain infrastructure for citrus and other agro products at Chhindwara, Madhya Pradesh (Last date : 30th September 2008)



Dehradun Mussoorie Ropeway : Land mark tourism project, an initiative of Govt of Uttarakhand, estimated project cost Rs. 780 crores, project includes a 11 km ropeway between Dehradun and Mussoorie, World class theme park at Dehradun in 42 acres, Outdoor Restaurant midway to Dehradun–Mussoorie in 8.3 acres, Eco Accommodation, Museum complex of George Everest at Hathipaon in 30.83 acres, Parking and commercial development at Mussoorie in 4.5 acres.

Likely bid out date: November 2008

Contact: +91-11-43002100

FROM THE EDITORIAL BOARD

Regrets for the delayed release of the 2nd edition of our Newsletter – IL&FS IDC interface. The Editorial Board in the last edition focused on providing the readers a glimpse of the various sectors and territories where IL&FS IDC is engaged in.

In this issue and the subsequent editions, IL&FS IDC would like to share its experience in successfully closing project with PPP in a particular sector. The edition would highlight the rationale required to understanding complexities and mitigating them to successful project delivery. We express our thanks to Mr. Deepak Gupta for his inputs in this edition.

We seek your continued feedback and suggestions.

On behalf of IL&FS IDC: Anjula Negi, Ankur Rajan, Artiman Tripathi, Shilpi Sharma, Vikash Chandra