

Wastewater Treatment Update [PAKISTAN]

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Wastewater Treatment

In Pakistan only 1% of the domestic and industrial wastewater receives treatment.

According to the Pakistan Water Situational Analysis, there are three wastewater treatment plants in Islamabad, of which only one is functional.

Karachi has two trickling filters, where effluents generally receive screening and sedimentation.

Lahore has some screening and grit removal systems, but they are hardly functional.

In Faisalabad, there is a wastewater treatment plant, in which wastewater receives primary treatment.

In rural areas, wastewater treatment is nonexistent, leading to pollution of surface and groundwater.

Methane Reduction, Recovery, and Use Initiatives

LOI'S ISSUED BY AEDB FOR SETTING UP BIOMASS/ BIOGAS BASED ELECTRICITY GENERATION PROJECTS

- I. Lol Issued To SSJD Group for 12 MW Biomass To Energy Power Plant At Sindh.
- II. Lol Issued To Lumen Energia Pvt Ltd for 12 MW Biomass To Energy Power Plant At Punjab.
- III. Lol Issued To Pak Ethanol (Pvt) Ltd. for Setting Up 09 MW Biogas Power Plant At Pak Ethanol, Matli, Sindh.
- IV. Lol Request from Lumen Energia for Issuance of Letter of Intent at Unsolicited Raw Site for Implementation of 12 MW (Gross-ISO) “Lumen Shahkot” Biomass Project.
- V. Lol Request from Lumen Energia for Issuance of Letter of Intent at Unsolicited Raw Site for Implementation of 12 MW (Gross-ISO) “Lumen Okara” Biomass Project.
- VI. Lol request from M/s Green Sure Environmental Solutions for setting up 10 MW Waste to Energy Power Plant in Mardan.

OTHER INITIATIVES:

- Pilot Phase of Landhi Cattle Colony Biogas Project completed.
- US \$ 325 K Waste to Energy Study being carried out for Karachi to generate 10 MW power.
- World Bank Financing arranged for detailed Municipal Solid Waste, Liquid Waste and Animal Waste to Energy Studies for 20 cities.
- 14000 Biogas Plants being constructed through RSPN (Rs. 356 Million Dutch Grant)
- RDF / WTE plants are operational/in advanced stages of implementation in Lahore, Karachi, Sheikhpura, Faisalabad, Hyderabad, Dera Ghazi Khan and Peshawar, Islamabad
- 14 New Waste to Energy Projects (213 MW) awarded Generation License by NEPRA;

In addition to above, Projects having 518 MW capacity are being developed under Co-Generation Policy 2008:

| | | | | |
|---|-------------------------------|------------------------------|---|-----|
| 1 | JDW Cogeneration Project | JDW Power (Pvt) Ltd | Near Rahim Yar Khan, Punjab | 73 |
| 2 | Ramzan Cogeneration Project | Ramazan Energy/Sharif Group, | Ramaz Sugar Mills Bhawana, Jhang Road Chiniot, Punjab | 100 |
| 3 | Janpur Cogeneration Project | Janpur Energy Ltd. | Janpur, District Rahim Yar Khan, Punjab | 60 |
| 4 | Fatima Cogeneration Project | Fatima Energy Ltd. | Sanawan, Kot Addu, Muzaffargarh, Punjab | 100 |
| 5 | Chishtia Cogeneration Project | Chishtia Power (Pvt) Ltd. | Sillanwali - Sahiwal road District Sargodha, Punjab | 65 |
| 6 | Dewan Cogeneration Project | Dewan Energy Ltd | Dewan City 20 Km from Sujawal on Sujwal-Badin Road, Sindh | 120 |

Total Capacity 518 MW

MSW to Energy Projects

- 1) 1000 Tons/Day Rdf Plant, Peshawar:
- 2) 6 Mw Biomass Based Power Plant, Lahore:
- 3) 5 Mw Biomass Based Power Plant, Lahore:
- 4) 1000 Tons/Day Rd Plant, Rawalpindi:
- 5) 05 Mw Biomass Based Power Plant, Lahore Cantt:

The above projects have achieved financial close.

Barriers/Challenges to Methane Reduction, Recovery, and Use

Constraints:

- **DISCOs are reluctant to take the power supplied by renewable energy plants.**

An IPP has informed that they have been proposing to sell upto 2 MW Power to WAPDA/PEPCO for last three years, but they have not received any response since November, 2010.

Another IPP has informed that we offered a surplus power 3 MW to WAPDA. In November, 2011, we were given impression that no power from private plants was required by LESCO, as for the time being no load shedding was scheduled in the country. Hence LESCO would not renew power agreement with private sector.

Another IPP can provide 15 to 35MW but due to limitation of budget at Sukkur Electric supply Co their surplus energy could not be put on grid.

- **Co Generation Policy only favours larger projects 60MW plus.**
- **Upfront Tariff does not exist for Bagasse based power projects.**

SUPPLY SIDE CONSTRANINT: FINANCE

On the Supply side the biggest hurdle is availability of finance.

Local Funding:

Owing to circular debt, banks have accumulated high exposure to the power sector, mostly working capital also term finance and most of this is concentrated amongst the top 5 banks. Future funding for the sector from banking institutions is difficult if not impossible

Lack of depth of the corporate debt market: The listed corporate bond (or TFC) market is presently only a miniscule Rs 123 Billion. The non-bank market of privately placed TFCs and Sukuks amounts to an even small Rs 63 billion. This is less than 1% of the total domestic debt market.

Public sector financing is severely squeezed by PSDP cuts on the one side and the IMF conditionality to tap the growing domestic debt burden and fiscal deficit on the other.

International Funding:

New projects are facing higher financing cost with more stringent conditions, lower debt/equity ratios, shorter tenors and more conservative structures. Investors now prefer larger projects.