



# Current Status and Priorities of Waste Management in Jakarta

Promoting Bilateral Mechanisms in Asia and the Pacific, ADB Workshop, Jakarta 22<sup>nd</sup> of May 2015





# This Presentation:

- covers only aspects with High Capex Investment Opportunity
- covers only aspects of Municipal Solid Wastes (non Hazardous)
- 1 page about Acritas Energi Indonesia
- a brief summary of Waste Technology Applications
- the first BOT Landfill Project in Jakarta
- how can JCM contribute



# About Acritas Energi Indonesia

- Developer of Waste Management and Waste to Energi Project in Indonesia
  - Newly established. Manned by experienced team of ex-Navigat Organic Energi Indonesia.
- Our current development portfolios are:
  - RDF Power Plant in Bantargebang, waiting for government approval
  - RDF Production facility for Nambo, a contender in a tender process.
- Our mission is:

Acritas brought together investors, lenders, technology providers and industry experts, and strives to raise the bar of waste management operatorship in Indonesia;



# Waste Technology Applications

(in lay-men terms)

High Value Materials

Low Value Plastics

Combustible Organic

Wet Organic

Inert

Building rubbles,

**INERT** 

concrete.

**METALS** 

Tin, steel, frame, scrap, typically already recoved by iron industry

**PAPER PRODUCTS** 

Carton, paper, already recovered by the waste-paper industry

**HIGH VALUE PLASTICS** 

PP, HDPE, PE, and most 3D

products

No further intervension

LOW VALUE PLASTICS

Stretch, black, plastics, Sachets, wiring isolation, Noodle packaging, styrofoam

**TEXTILE** 

Textile

Matrass, clothing, expackaging **COMBUSTIBLE ORGANICS** 

Wood, branches, coconut shells,

**WET ORGANICS** 

Food, putrescibles, greens

material recovery for combustion purposes

gas potential

Inert



# Waste Technology Applications

(in lay-men terms)

**PRODUCTION OF RDF** 

Production of Refused Derived Fuel

No further intervension

material recovery for combustion purposes

gas potential

Inert

Waste is a spectrum, so is its technology application.

Unfortunately, there is no one size fits all technology that solves every problem....



#### MIXED LANDFILL

**RDF POWER PLANT** 

Combusting RDF

Open dumping or sanitary landfill, or managed anaerobic landfilll

### **AEROBIC SYSTEM** composting

### **ANAEROBIC SYSTEM**

aeared for methane gas production

### **INERT LANDFILL**

dry tomb landfill

### **INCINERATION**

Mass-burning technology, often with power generation, the higher the wet organic portion, the less ability it can generate power.

### **HAZARDOUS LANDFILL**

to contain remains of incineration.



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Bantargebang Landfill is the only Waste Treatment facility that Jakarta has.

MUCH MORE NEEDS TO BE DONE!!!!

### **MIXED LANDFILL**

Open dumping or sanitary landfill, or managed anaerobic landfilll

AEROBIC SYSTEM composting

ANAEROBIC SYSTEM geared for methane gas production INERT LANDFILL

dry tomb landfill

### **PRODUCTION OF RDF**

Production of Refused Derived Fuel

### RDF POWER PLANT

Combusting RDF

### HAZARDOUS LANDFILL

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#### INCINERATION

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# Bantargebang Landfill, East of Jakarta

- Servicing the entire population of Jakarta covering 5 municipalities;
- Was tendered in 2008, for upgrade of facility and operation, and Rp699billion BOT investment;
- Counterparties:
  - Provincial Government of Jakarta and
  - Joint Operation between PT Godang Tua Jaya & PT Navigat Organic Energi Indonesia,
  - 15 years.
- Contract coverage
  - landfill upgrade, composting plant, material recycling plant, landfill gas power plant, and a 300tpd thermal plant



# Investment Plan & Realisation Rp186billion

Rp49billion

### Realised Investment:

- a. Composting Facility
- b. 16MW Landfill Gas Power Plant
- c. Recycling Plant

### **Unrealised Investment Plan**

Remaining 300tpd thermal system, which is no longer relevant for 6,000tpd volume; and landfill infrastructure maintenance for 2,000tpd facility

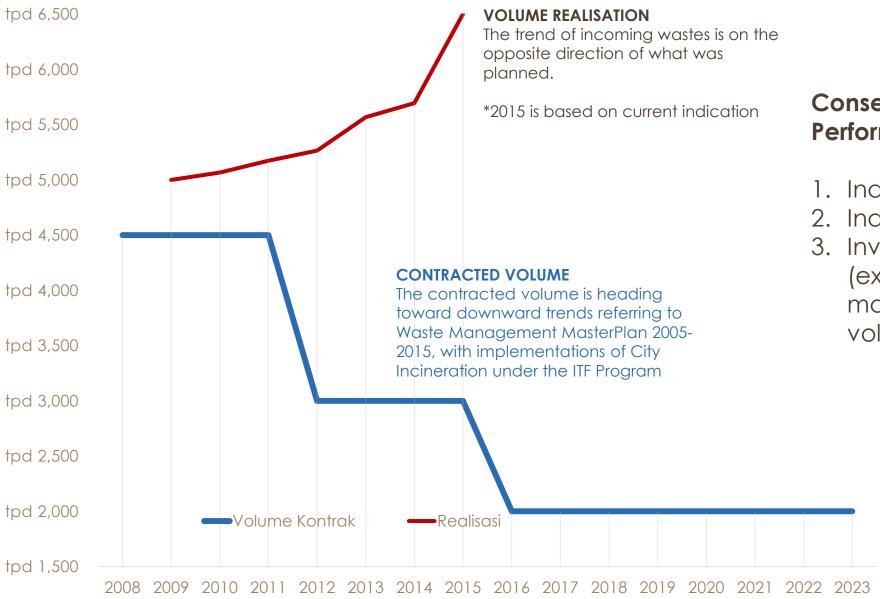
Total Investment Plan Rp 670billion

Rp465billion

- Realisasi Investasi Tahun 2008 2013
- Rencana Investasi Tahun 2014
- Sisa Rencana Investasi Tahun 2015 2023



# Contract Volume & Realisation



# Bantargebang Landfill

## **Consequences on Contract Performance**

- 1. Inadequate Operational Plan
- 2. Inadequate Investment Plan
- 3. Investment plan in disarray (extraction of landfill gas is made difficult with the high volume)



# Revenue Deficit from Non-Tipping Income

Source of Project Revenue Sales of Compost Sales of Carbon Credit Sales of Power

Sales of Recycleables Tipping Revenue

Status

Bantargebang generates large volume of compost which can not, yet compete against chemical fertilizer.

Operation continues on subsidy on account to reduce wastes ending in landfill. International commitment evaporates.

The Project is registered in Nov 2012, and has certified 281,951tCO2 preregistration.

Power generation is not as good as expected.

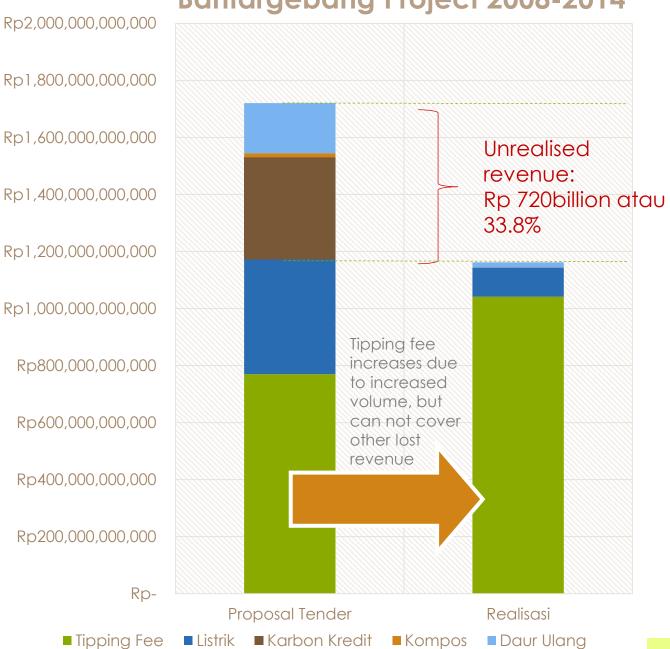
Gas extraction is hindered by too high volume of incoming material providing no time for landfill covering necessary for gas extraction.

Social pressure from scavenger means that revenue from recyclables is not optimal. Tipping fee is the only revenue that continue to climb.

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# Deficit in Revenue

# Planned and Realised Revenue of **Bantargebang Project 2008-2014**



# Acritas Current Investment Plan at Bantargebang



### Features:

13MW Gross Power 100% 3,600kcal/kJ of RDF 1,160tpd of MSW

**Investment Value** USD42million

### Project Status:

Waiting for Approval from DKI Jakarta.

**Environmental Permit is** obtained.

# How can JCM assists?

- JCM is essentially can act almost like a Viability Gap Funding in a PPP Project, reducing upfront investment.
- Reduction in Capex has huge benefit to Project Finance
  - Reduced Interest During Construction
  - Reduced Borrowing Costs
  - Higher DSR and free cash flow means that project is better maintained.

# How can Jakarta Benefit from JCM

- JCM can assists in the realization of City's Incineration Project under the Waste Management MasterPlan
- Reduction in Capex means the City can afford better and more reliable technology, which is more emission friendly.



# Thank you

