



Welcome To



BALIKPAPAN

BALIKPAPAN

The Best City for Living and doing Business



BALIKPAPAN CITY PRESENTATION

Solid Waste Reduction And Methane Gas Utilization at City Landfill



4th High Level Seminar
On Environmentally Sustainable Cities

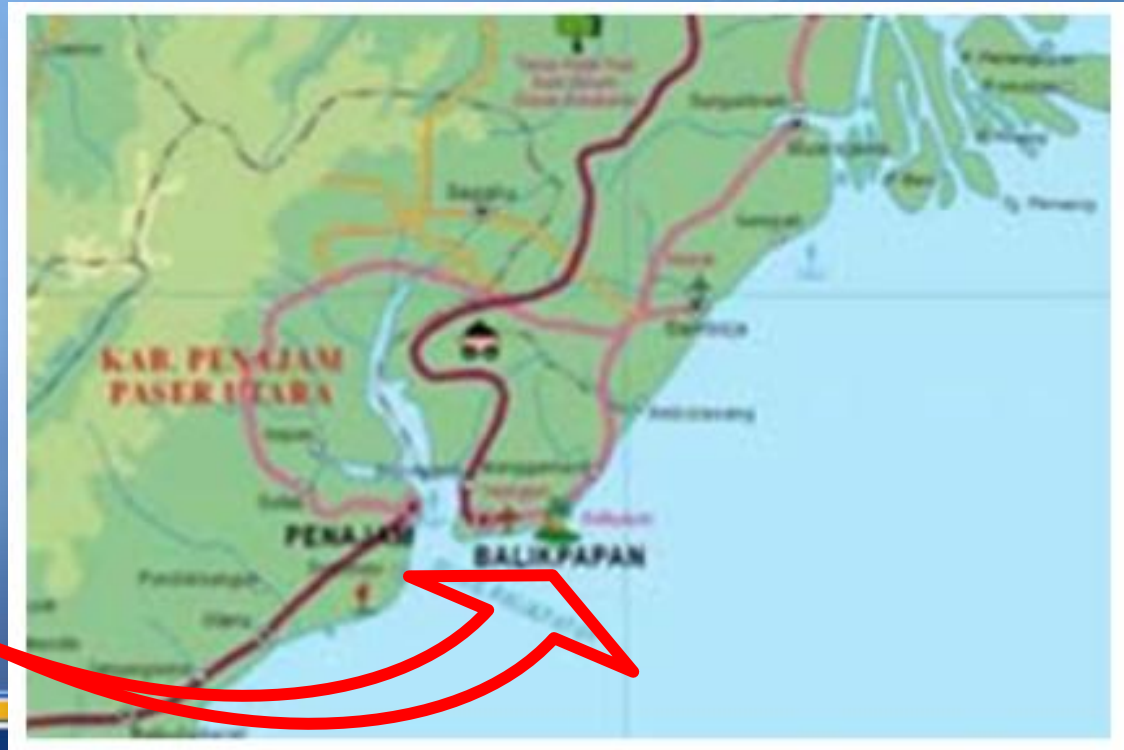
Hanoi Vietnam , 21 – 22 March 2013



GEOGRAPHIC LOCATION

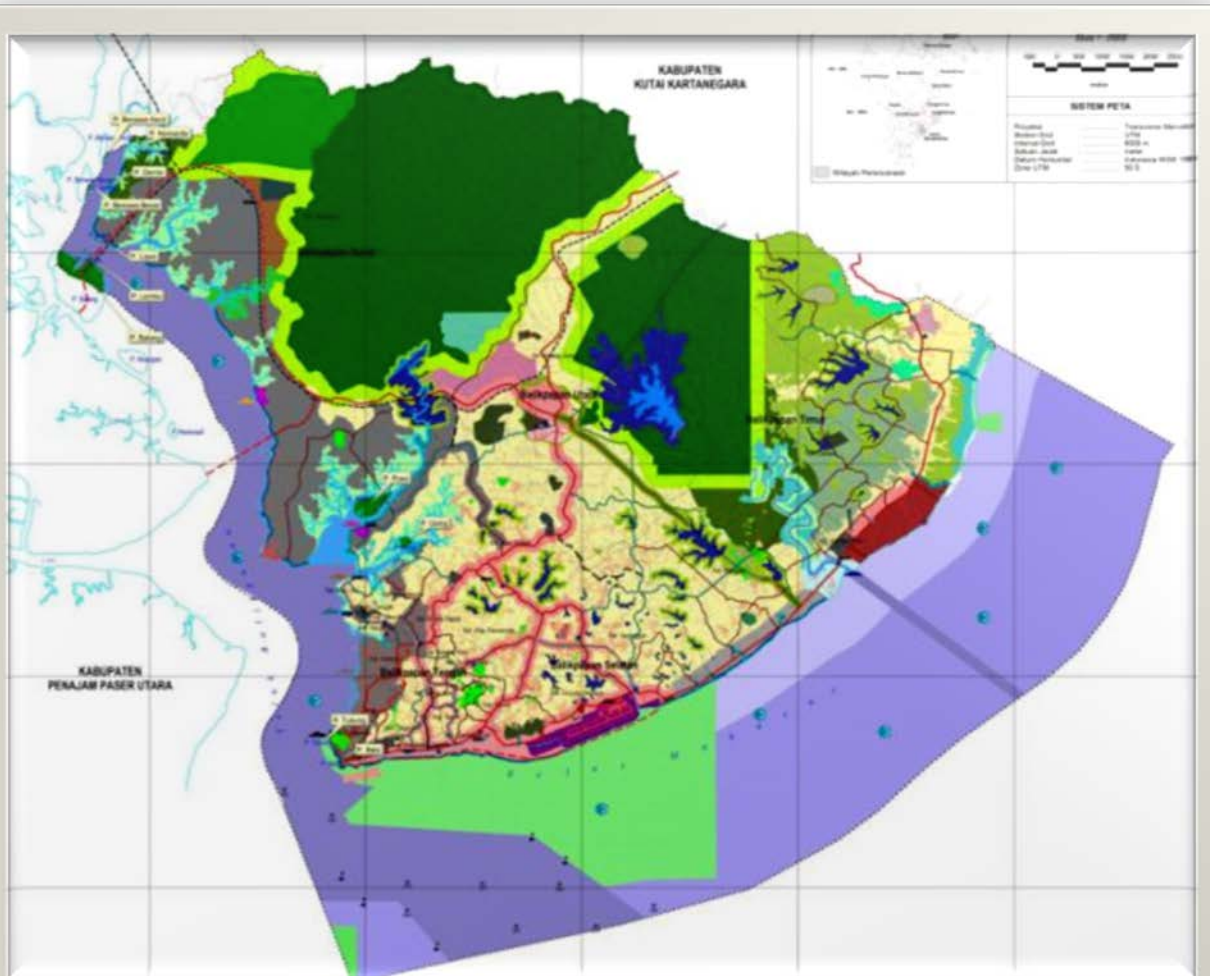


East Kalimantan Map



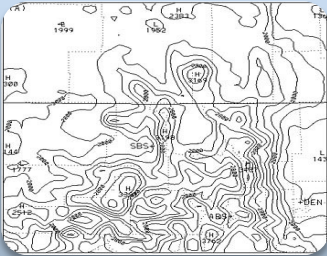
CITY GOVERNMENT'S COMMITMENT TO ENVIRONMENT SUSTAINABILITY

1. Landuse Planning : 52%(Environment) : 48% (Development)
2. Restricted for coal mining (Despite a 60% coal potential)

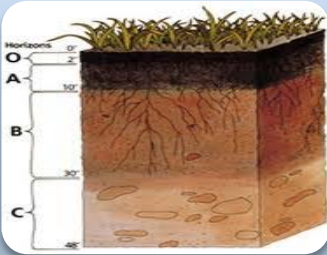


**LANDUSE
PLANNING MAP
2012-2032**

OVERVIEW



Topography : 85% undulating, 15 % Flat Area



Soil Type: Yellow red podsols & Slica sand



Population (2012) 637.448 People

Growth rate : 4,52 % per year

Natural growth 1,56% and immigration 2,96 %

1. REDUCING SOLID WASTE TO LANDFILL

Manggar Landfill

- Manggar Landfill covers an area of 25,1 hectares with sanitary landfill system
- Consists of 4 zones, 1 of which is inactive since March 2008. 2 zones are still under construction
- Gas produced from waste treatment is delivered to the community through vertically and horizontally installed ventilation pipes.

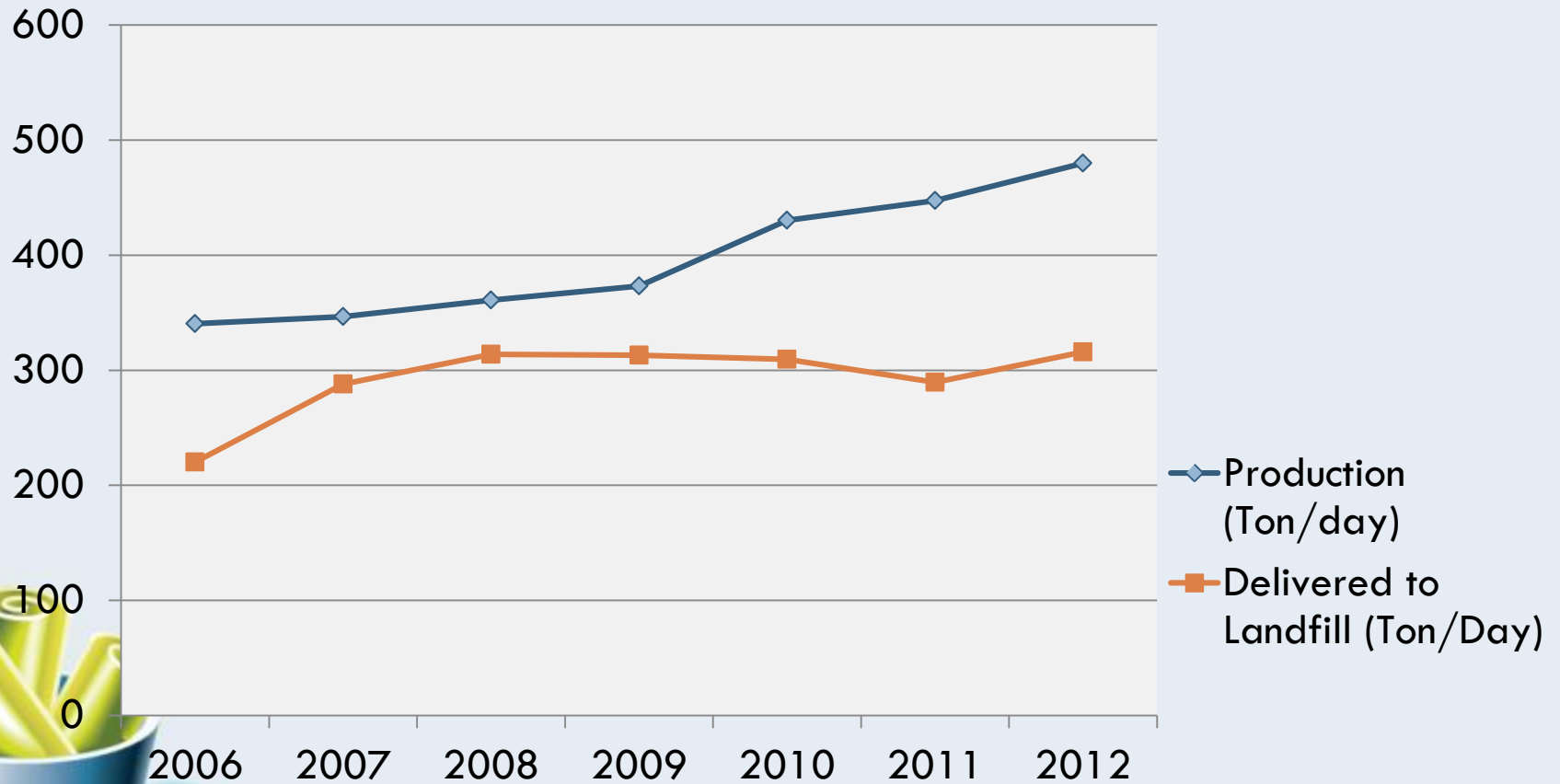


WASTE IN BALIKPAPAN

No	Year	Waste Production (Ton/day)	Waste Delivered to Landfill (Ton/day)
1	2006	340.5	220.062
2	2007	346.61	287.961
3	2008	360.84	313.88882
4	2009	373.12	313.0614
5	2010	430.28	309.55
6	2011	447.32	289.48
7	2012	480	315.8



Chart 1: Comparison of Solid Waste produced & Solid Waste delivered



3R in BALIKPAPAN

No	Location	Address	Waste Volume (M3)/month	Stakeholder
1	Housing	22 Sub-districts	58,41 (Anorganic) 95,34 (Organic)	Community
2	Traditional Market	8 Markets:	66,15 (Anorganic), 2.756,25 (Organic)	Market officers
3	Government Office	Mayor's office	7,5 (Organic)	Employees
		Parks and Cleaning Agency		
		Local House of Representative		
		East Balikpapan District Administration		
		West Balikpapan District Administration		

No	Location	Address	Waste volume (M3)/month	Stakeholder
4	Schools	8 elementary schools	105 (Anorganic & Organic)	Students, Teachers, & School Staffs
		6 junior high schools		
		7 senior high schools		
5	Private Office	PT. BES	10,5 (Anorganic & organic)	Private Company
		Yayasan Peduli	26,25 (Anorganic & organic)	
		PT. Unitek Borneo	682,5 (Anorganic & organic)	
		PT. Puri Borneo	7,35 (Anorganic & organic)	



COMPOSTING PROCESS FROM HOUSEHOLD



Waste separation from household



Household waste collection



Organic waste is put into composting barrel



Composting process



RECYCLED PRODUCTS (Paper, Photo Album, and Flowers)



Solid Waste Bank (SWB)

- 37 SWBs manage Anorganic Solid Waste 150,78 Ton/Year
- Revenue: IDR 174.000.000 (\$ 18.206)/year



Activity in SWB



Calculation



Anorganic Waste



Storage



Registration



Measurement



2016 Target (5 Years' Regional Planning)

- *Volume of Solid waste delivered to Landfill 274,5 Ton/day (Now: 315 ton/day)*
- *Scope of Solid waste service 90% (Now: 85%)*
- *Solid waste reduction through 3 R to be 19 % (Now: 16%)*



Commitment Toward 3R Activities

- Develop 2 Unit ITF (Intermediate Treatment Facilities) at West and East Balikpapan District
- Develop Several Solid Waste Bank
- Develop 4 units Integrated Solid Waste Processing Area (Now: 2 units)



3R Activities by Student



Recycling



Composting





2. UTILIZATION OF METHANE GAS AT LANDFILL

METHANE GAS POTENTIAL AT MANGGAR LANDFILL

- Zone 1 of Manggar Landfill produces around 1.764,15 Kg to 3.168,06 Kg LPG/day
- Zona 2 of Manggar Landfill produces around 1.169,79 Kg to 2.736,56 Kg LPG/day



UTILIZATION OF METHANE GAS AT MANGGAR LANDFILL

- Methane gas utilization is conducted independently by the community with the help of private companies (PT. Thies, PT. United Traktor dan PT. Slumberger) through their CSR programs
- The number of households using methane gas: 40
- Currently methane gas utilization generate 4000 watts of electricity.



Our Commitment to Methane Gas Treatment

- Construction of waste treatment facility to produce methane in Pandansari Market
- Methane produced in Manggar Waste Facility will be used to generate electricity
- Plan to increase the number of household using methane gas, from 40 to 53 households.





THANK

YOU