Kota Punya Cerita:
Pengalaman Kota Bogor & Balikpapan

Tantangan dan Capaian Program Urban LEDS 2013 – 2016
Urban Low Emission Development Strategy: A pathway towards a low-emission, green and inclusive urban economy through integration into city development plans and processes. Using sustainable energy (energy savings, energy efficiency, renewable energy) and exploring energy storage are core elements in this transition strategy and process.
Growth and Developed since 533 years ago
800,000 COMMUTERS - Weekdays-

200,000 TOURISTS - Weekend-
NEW VEHICLES EVERY WEEK

800 MOTORCYCLES

200 CARS
TRANSPORTATION’S PROBLEMS

IN BOGOR CITY

PEOPLE’S MOBILITY PATTERN ON CITY CENTER

POOR PEDESTRIAN;

HIGH RATE OF TRAFFIC VIOLATION

POOR INFRASTRUCTURE;

QUALITY OF PUBLIC TRANSPORTATION

ANGKOT OWNERSHIP

DAILY TRAFFIC JAM

± 600 PEOPLE COMMUTER/DAY

TRANSPORTATION’S PROBLEMS IN BOGOR CITY
Bogor City GHG Inventory

- Developed with IPCC 2006 Tier 1, Combine with ICLEI HEAT+
- Base line 2010

Bogor City, GHG Emissions Inventory (2010)

- Manufacturing: 32.2%
- Transport: 33.8%
- Commercial and Institutional: 5.3%
- Wastewater: 4.0%
- Solid Waste: 6.1%
- Livestock: 0.1%
- Agriculture Non-CO2: 0.5%
- Open Burning of Waste: 1.1%
- Industrial Processes: 0.0%
- Biological Waste: 0.0%
- Agriculture CO2: 32.2%
- Agriculture Non-CO2: 0.5%
- Open Burning of Waste: 1.1%
- Agriculture CO2: 32.2%
“To shift Bogor City towards a low carbon development trajectory, the city will reduce GHG emissions by developing a set of environmental and low emission city regulations and policies. The city priorities are: to improve the quality of spatial planning and implementation; promote mass transportation, pedestrians and cyclists; and encourage urban development responsiveness to disaster risk and climate change impacts.”

Bima Arya Sugiarto
Mayor of Bogor

www.kotabogor.go.id

Model City Bogor
Indonesia

Vision
Realise a clean and environmentally sound city based on developing a green economy with an emphasis on services that optimise the use of existing natural resources.

Commitments
Bogor is committed to the following emission reduction targets:
- 2% GHG emission reduction by 2020 (baseline year 2010) (Community initiated)

Milestones
09/2013: Mayor participates in CH4+ training for GHG inventory development
01/2014: Mayor participates in GFC training
11/2014: The City enacts the 5-Year Development Plan
09/2014: Mayor Participates in the 2014-2015 Earth Hour City Challenge
09/2014: Bogor releases its GHG inventory
2014: The City Strategic Environmental Assessment Document is finalised
12/2015: Bogor announces its emissions reduction commitment of 2% by 2020 at the COP21 in Paris (baseline year 2010)
03/2016: Urban LED expert begins to advise Bogor on bus rapid transit management
2016: LED Action Plan has been finalised and will be approved by the City Council in the course of 2016.

Strategy
Bogor’s 5-Year Development Plan (RJPD) adopted in November 2014 recognises climate change mitigation, adaptation and disaster risk reduction as strategic priorities for the period 2014-2019.

The RJPD maps emission reduction efforts in the following priority sectors:
- Spatial planning
- Air pollution control
- Public transportation
- Rehabilitation
- Green building standardisation
- Integrated waste management
- Energy efficient streetlights retrofits
Actions enabled in Bogor by the Urban-LEDS project

**Methane capture from communal sanitation plant**
- The communal sanitation plant of Bogor’s residential area was equipped with a bio-digester to capture emissions of methane from domestic wastewater and convert it into a source of renewable energy for domestic use in cooking.
- In 2014, the system saved 47 locations.

**Bogor’s ‘Walkability’ Campaign**
- Bogor has committed to building 31 kilometeres of pedestrian and cycle paths by 2020.
- The first phase of the project has been concluded.
- The newly built paths are equipped with tag, bicycle locks, green areas and are completely integrated with public transport stations and public parks of interest.
- A park and ride system is also planned.

**Green Building Concept**
- Bogor has enacted a Green Building Regulation and Code.
- Funds are allocated in the annual budget to build the first green star house of Bogor within their capital.
- Several more heritage buildings have been identified for retrofitting in the next 5 years.

**Smart street lighting**
- In November 2014, Mayor Wina inaugurated a program of streetlight conversion to light-emitting diode (LED) lamps by installing the first lamp himself.

**Introduction to transport budget**
- The city council approval of November 2014 allocated about 12 million USD to promote watershed air emission reduction in the city, including the installation of solar energy DSR systems and building part of the 180-ha microdistricts-dwelling blocks.

**Backhaul Transport (MS): System**
- In 2014, the project site will be attended by the Cynk MS systems. "The Test Project" which currently stretches over 27 km and taken.

**Muscle fuel switch**
- 10% biomass will run on inhibited natural gas and 90% biomass will run on electricity by 2019.
- To implement this, the city has installed a biogas technology.
- In 2014, 200 bios have already been set to inhibited natural gas.
- Benefits of this action include the reduction of emissions from transportation, the improvement of air quality.
URBAN DEVELOPMENT AND MOBILITY ENHANCEMENT STRATEGY:

- Reducing traffic load in city center
- Developing public transportation

POLICY OF CITY'S MOBILITY DEVELOPMENT

PEDESTRIANS
- BICYCLES
- PUBLIC TRANSPORT
- COMERCIAL VEHICLE
- TAXIS
- HOVs
- CAR

DEVELOPMENT OF PEDESTRIAN

DEVELOPMENT OF BICYCLES

DEVELOPMENT OF PUBLIC TRANSPORT

DEVELOPMENT OF COMERCIAL VEHICLE

DEVELOPMENT OF TAXIS

DEVELOPMENT OF HOVs

DEVELOPMENT OF CAR

DEVELOPMENT OF REGIONAL MOBILITY ENHANCEMENT

DEVELOPMENT OF ROAD NETWORK ENHANCEMENT

DEVELOPMENT OF LOCAL MOBILITY ENHANCEMENT

DEVELOPMENT OF FREIGHT AND PASSANGER TERMINAL

DEVELOPMENT OF MASS TRANSPORTATION

DEVELOPMENT OF PEDESTRIAN MOBILITY

DEVELOPMENT OF BICYCLE MOBILITY

DEVELOPMENT OF PUBLIC TRANSPORT MOBILITY

DEVELOPMENT OF COMERCIAL VEHICLE MOBILITY

DEVELOPMENT OF TAXI MOBILITY

DEVELOPMENT OF HOV MOBILITY

DEVELOPMENT OF CAR MOBILITY

IT BASED TRANSPORT LAW ENFORCEMENT

DEVELOPMENT OF TOD

DEVELOPMENT OF REGIONAL MOBILITY ENHANCEMENT

DEVELOPMENT OF ROAD NETWORK ENHANCEMENT

DEVELOPMENT OF LOCAL MOBILITY ENHANCEMENT

DEVELOPMENT OF FREIGHT AND PASSANGER TERMINAL

DEVELOPMENT OF MASS TRANSPORTATION

DEVELOPMENT OF PEDESTRIAN MOBILITY

DEVELOPMENT OF BICYCLE MOBILITY

DEVELOPMENT OF PUBLIC TRANSPORT MOBILITY

DEVELOPMENT OF COMERCIAL VEHICLE MOBILITY

DEVELOPMENT OF TAXI MOBILITY

DEVELOPMENT OF HOV MOBILITY

DEVELOPMENT OF CAR MOBILITY

IT BASED TRANSPORT LAW ENFORCEMENT

DEVELOPMENT OF TOD
Walk-able City
LOW EMISSION ENERGY: ENERGY ALTERNATIVE

CNG ANGKOT
Installation of CNG Converter Kit to existing angkot & development of the gas station

Current Status: 50 angkot
Target: Up to 1000 angkot in 2020.
Gas Station available at PGN Office Bogor, will then be built at the North & South Bogor Area.
Electric ANGKOT

Developing grid as the base for future public transport. Prototype is developed in cooperation with LIPI (Indonesian Institutes of Sciences)

Current Status : 1 prototype (FS)
Target : Feasibility Study
Balikpapan City GHG Inventory

- Developed with IPCC 2006 Tier 1, Combine with ICLEI HEAT+
- Base line 2010

Balikpapan 2010 emissions analysis

- TRANSPORT 36.4%
- RESIDENTIAL 24.9%
- COMMERCIAL AND INSTITUTIONAL
- MANUFACTURING 3.1%
- SOLID WASTE 5.8%
- LIVESTOCK 0.4%
- AGRICULTURE NON-CO2 1.2%
- WASTEWATER 3.5%

- INDUSTRIAL PROCESSES 0.0%
- BIOLOGICAL WASTE 0.0%
- OPEN BURNING OF WASTE 0.0%
“Balikpapan City is very optimistic regarding the achievement of its emission reduction target by 2020 as a contribution to the national emission reduction target to reduce emissions by 25.82%. We must and will make it. The ICLEI GreenClimateCities program will help us to get there.”

Rizal Effendi
Mayor of Balikpapan

www.balikpapan.go.id

Model City Balikpapan
Indonesia

Vision
Making Balikpapan a livable and environmentally sound city with a green economy.

Commitments
The Low Emission Development Action Plan includes the following GHG emissions reduction target:
- 25.82% reduction by 2020 (baseline year 2010) (community target)

Milestones
2013: HEAT - training on GHG inventory development
2014: Earth Hour City Challenge Participant
2014: Balikpapan releases its GHG inventory and identifies the transport sector as the highest emitting sector as well as huge carbon sink potential from the city forest and open green spaces.
2016: Balikpapan’s Low Emission Development Strategy, Action Plan and Target are embedded in the city’s 5-Year Development Plan (RPJMD) which was finalized and sent to the City Council for approval in April 2016.

Strategy
The City 5-Year Development Plan, which includes a Low Emission Development Strategy has been finalized and submitted for a Council approval in April 2016.

This Action Plan includes actions with the total mitigation potential of 116,896 tCO2e by 2020 (a reduction of 25.82%) in the following priority sectors:
- Energy (20%)
- Transport (10%)
- Waste (7%)
Actions enabled in Balikpapan by the Urban-LEDS project

First GHG inventory and identifying LEDS activities
- Balikpapan finalized its first community GHG emissions inventory with the support of Urban-LEDS and the guidance of an expert recruited through the Pool of Experts for direct technical assistance.

Carbon sinks
- The protection and expansion of protected forest area in Balikpapan city will tap into the significant potential of local carbon sequestration from the city’s forest and open green spaces. In addition, the City supports the importance of agro-forestry, offering environmental and forestry education in two schools.

Energy efficient lighting
- Energy-efficient lighting is a primary LEDS focus in Balikpapan, including:
  - Scaling-up energy efficient street lighting to main and secondary roads
  - Retrofitting facilities, starting with the retrofit of government and public buildings.

Waste-to-energy; low carbon waste management
- Detailed engineering feasibility studies were developed to equip the Pandanpan Market and Mangga Sari waste treatment facilities with carbon capture and storage systems.
- Budget has been allocated for this action in the city budget for 2016. The regulations to implement this project will be enacted in June 2016.

Corporate Social Responsibility
- The Corporate Social Responsibility (CSR) Forum is a group of companies in Balikpapan City that have committed to dedicate part of their budget to support social and environmental issues in the city, coordinated directly by the Government of Balikpapan.
- Funds have already been allocated through the CSR Forum to the Manggar Waste Management Facility to develop a biogas capture pipeline. The facility will electrify 40 households.
Barriers

- Lack of incentives
- Lack of integration
- Institutional weaknesses and differences
- Lack of capacity
Inadequate budget support
Poor access to finance (esp. international)
Potential loss of revenue

Lack of political/co-benefit incentives

Misalignment with subnational planning priorities
Unclear co-benefits
Vested interests
Institutional bias

Lack of financial incentives

Potential loss of revenue
- Lack of effective coordination and regulatory mechanisms
- “Institutional congestion”

**Institutional weaknesses**

- Culture and perspectives
- Focus and priorities
- Political ideology
- “Superiority-inferiority complex”

**Institutional differences**
Lack of Capacity

- Skills
- Knowledge of feasibility
- Awareness raising need
- Technical training need
- Lack and availability of data
Breaking Through to the other side

Engaging political leader, second line and third line decision making official

Harmonize policy and action

Bottom up engagement and synergy

Focus on either ongoing or already planned activities

Form alliances and partnership

Effective, efficient and equitable

Comprehensive and solid planning

Powerful MRV system

Capacity Building