



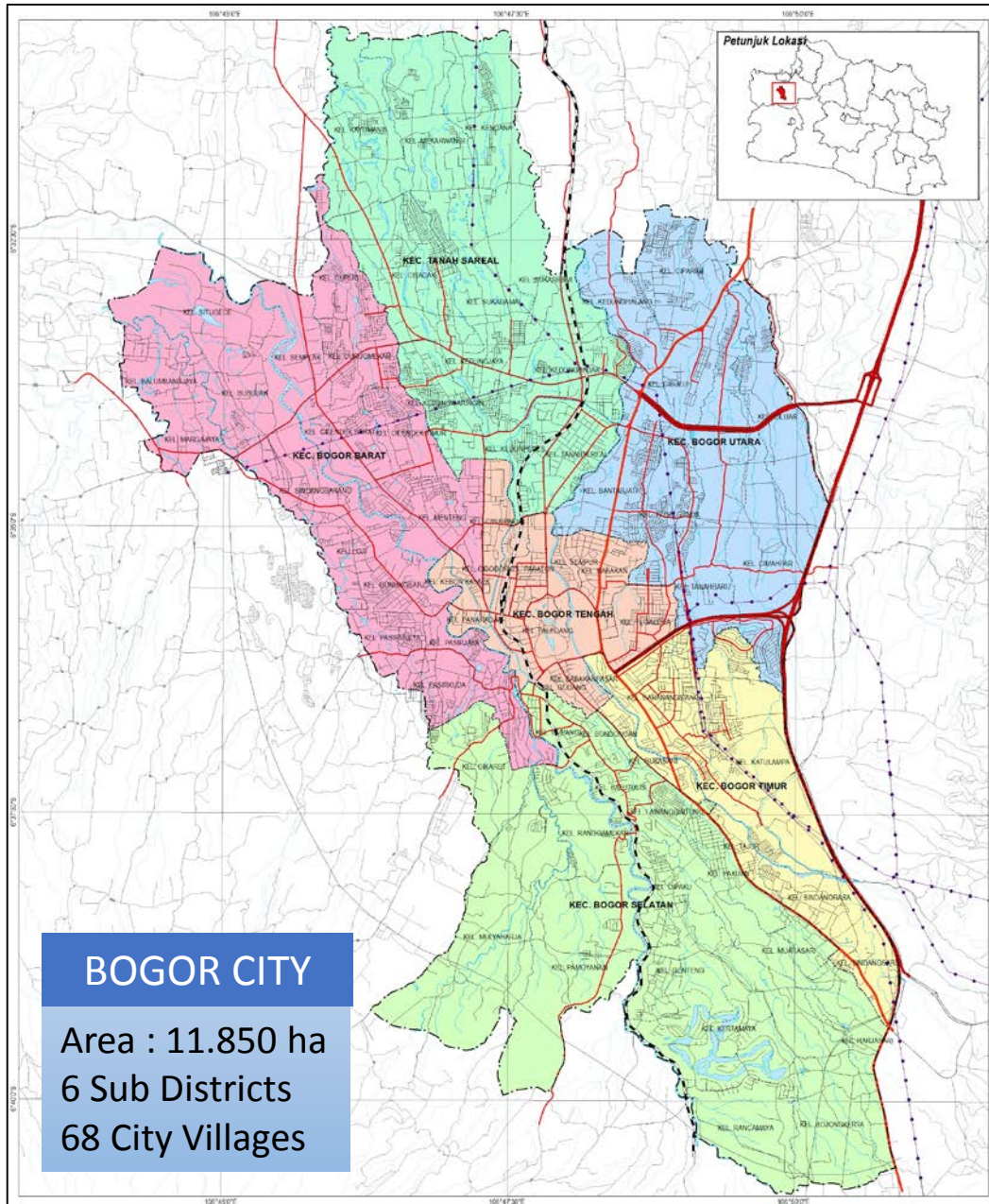
**BOGOR CITY LOW CARBON POLICIES AND EXPECTATION OF MONITORING
TOWARDS SUSTAINABLE SMART CITY**



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(BAPPEDA)**

BOGOR CITY GOVERNMENT



Basic Profile



1999 :697.511 inhabitants
2014 1.030.720 inhabitants
Projection 2028 1.673.354 inhabitants



2014 : Trade (22%)
Construction (11%)
Transportation(10%)
Economic growth 6.7%
GDP per capita Rp 28,23 millions



Built area : **2007** 4.406,45 ha (37,19%)
2011 5.567,31 (46,98%)
2014 5.903,66 (50,41)
Target of Spatial Plan : 70% in 2030



Road : 757.393 km
Vehicle : **2008** 206.187 units
2013 357.412 units (17.7%/yr)



Climate Change Journey of Bogor City

- 2009 : Bogor and GIZ Cooperation in Sustainable Urban Transport Improvement Project
- 2013 : Bogor and ICLEI Cooperation in Urban LEDS Program
- 2014 :
 - Bogor Mid Term Development Plan (inserting sustainable city and smart city) supported by ICLEI
 - GHG Inventory by ICLEI
- 2015 :
 - Bogor and IPB CCROM – NIES Cooperation started
 - Retrofitting LED of Street Lighting by ICLEI
 - Bogor and AFD Cooperation started
 - Adaptation study by ICLEI
- 2016 :
 - Energy and Climate Action Plan supported by AFD
 - Energy monitoring tool supported by CCROM-NIES
 - Adaptation Infrastructure Pilot Project by ICLEI

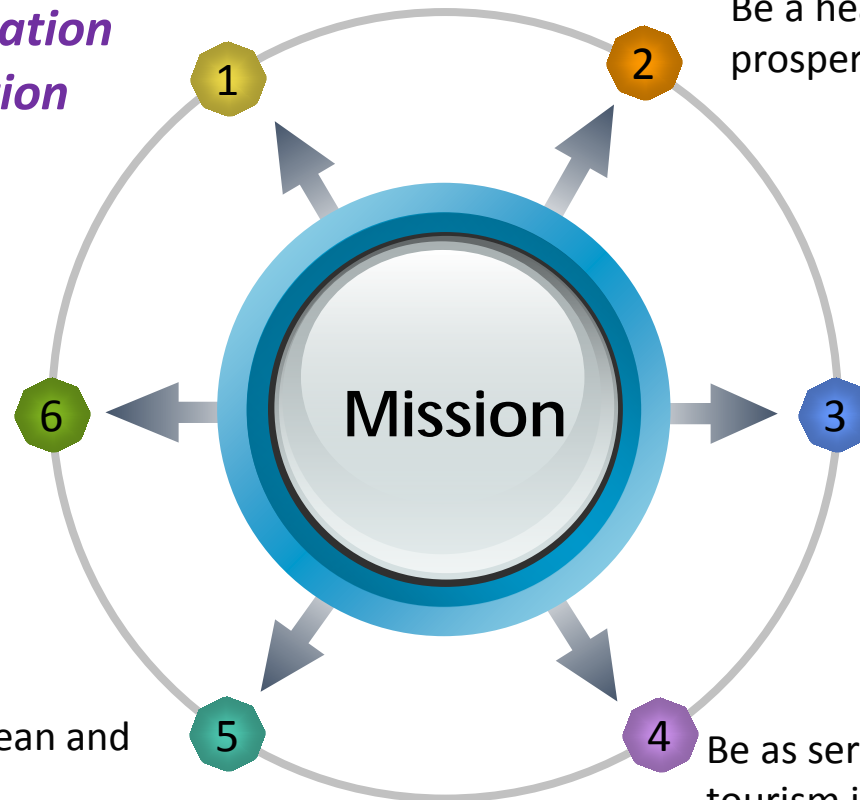
Vision and Mission of Bogor City Development 2015 - 2019

Vision : “Make Bogor a comfortable city, faithful and transparent”

Be a smart city and insightful information and communication technology

Be a healthy and prosperous city

Strengthen the role of religious morality and humanity to realize the civil society



Be a sustainable city

Embody a clean and transparent government

Be as service city is oriented on the tourism industry and the creative industries

Objectives and Targets of 1st Mission (SMART CITY)

Improve the implementation of e-government

- Establishment of a **system of government** based on Information and Communication Technology (ICT)
- Increasing the **quality of public services** based on Information and Communication Technology (ICT)
- Increased **public access** to information and communication systems

Encourage intelligent processes in public decision-making

- Increased quality public participation in development planning and implementation
- Increased public service and complaint handling in the development process
- The availability of baseline data is a powerful, accurate and up to date

Actions of SMART CITY Mission

Government website management

Health center information systems

CCTV management

Correspondence information system

Development and maintenance of fiber optic infrastructure

Village information system

Development of data warehouse and data center

Spatial information systems

Improving the quality of government office LAN

Development planning information system

Maintenance of Bogor Green Room

Population information system

Disaster information system

Public complaint information system

Objectives and Targets of 3rd Mission (SUSTAINABLE CITY)

Improving the quality of spatial planning

- Establishment of sustainable spatial planning policies
- Increased implementation of the spatial plan and control the utilization of space
- Increasing the extent and quality of green open space

Improving the quality of carrying capacity of city environment

- Reduced levels of pollution caused by urban activity
- Increasing the recovery and conservation of natural resources
- The realization of the arrangement and preservation of the Watershed
- Increasing community participation in environmental conservation

Develop urban transport that promotes mass transit, pedestrians, and cyclists

- The realization of the city's public transport system which is comfortable and environmentally friendly
- Increasing the quality of infrastructure for pedestrians and cyclists
- Reduced traffic jams

Encouraging the development of city-responsive disaster risk and climate change

- Increased disaster prevention and preparedness
- Increasing emergency response
- Increased post-disaster recovery
- Increased management of mitigation and adaptation to climate change

Applying an integrated and sustainable waste management

- Increased solid waste services
- Increasing Waste Management Based on 3R (Reduce, Reuse, Recycle)
- Internalization of waste management as part of the culture of life

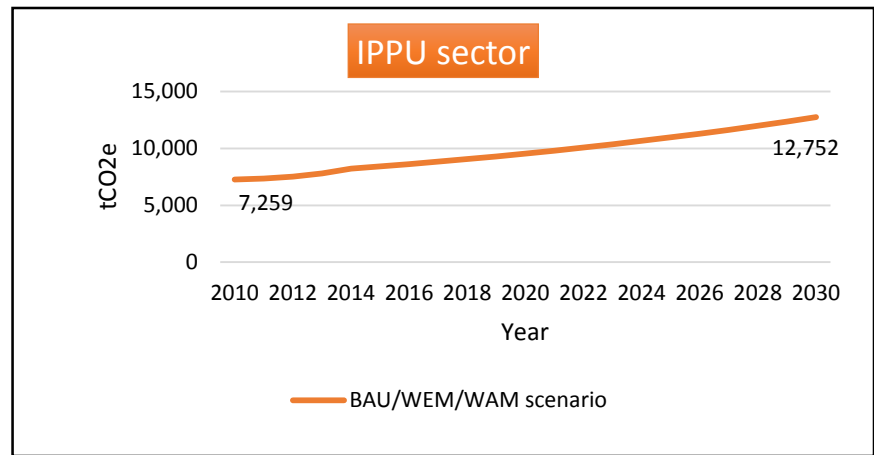
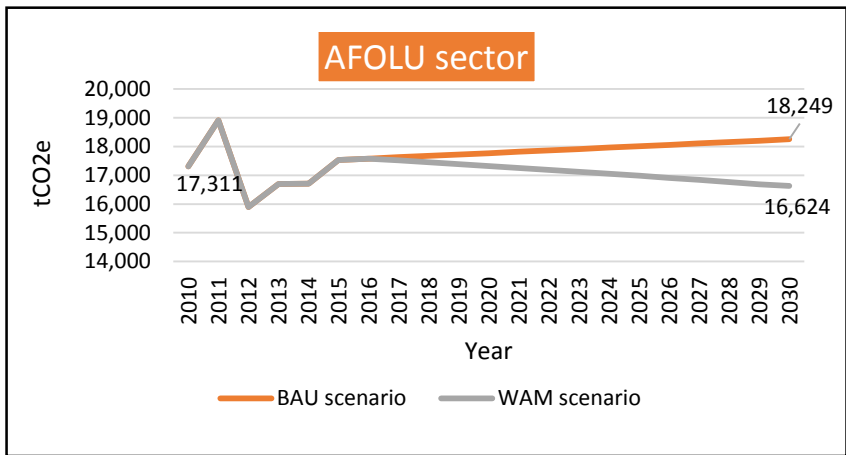
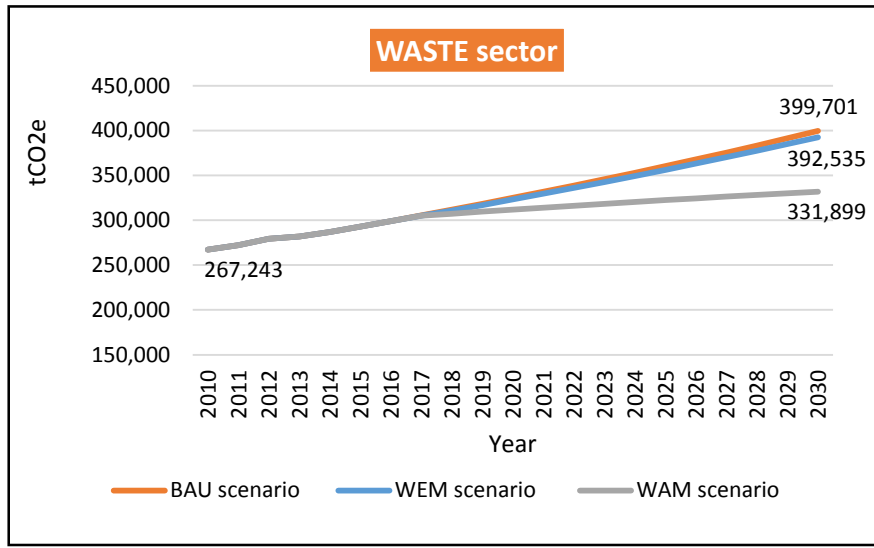
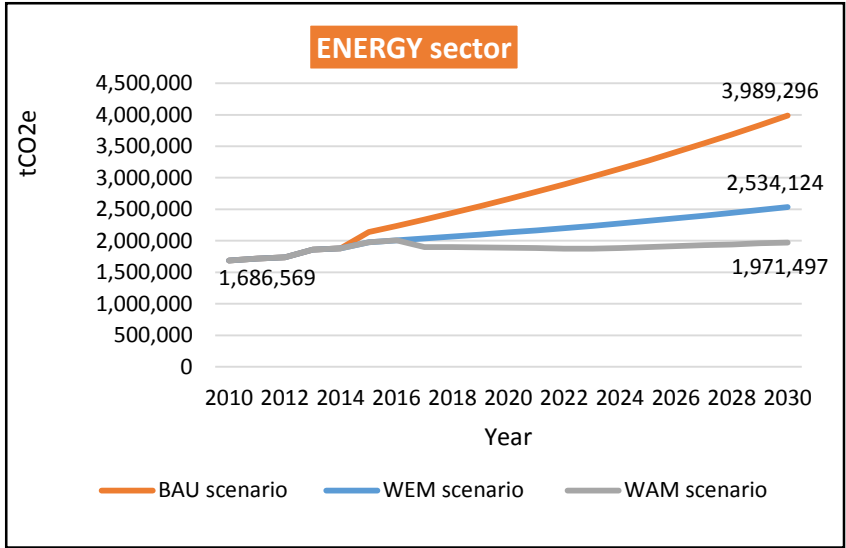
Climate Change Working Team

- Bappeda (mitigation and adaptation)
- BPLH (mitigation and adaptation)
- DKP (mitigation)
- DLLAJ (mitigation)
- Disbima (adaptation)
- Diswasbangkim (adaptation)
- Disperindag (mitigation)

Actions of SUSTAINABLE CITY Mission



Energy and Climate Action Plan : GHG Emissions Scenarios



Source : Draft Energy and Climate Masterplan by AFD refers to CCROM Data 2016

WEM: offers an overview of a potential mitigation scenario based on gradual growth trends, and the effect of the emerging technologies and the current and near-future market trends in Indonesia.

WAM: which takes into consideration new actions aligned with the local policies in Bogor as well as some additional measures.

Energy and Climate Action Plan : 10 Action Plan Priorities

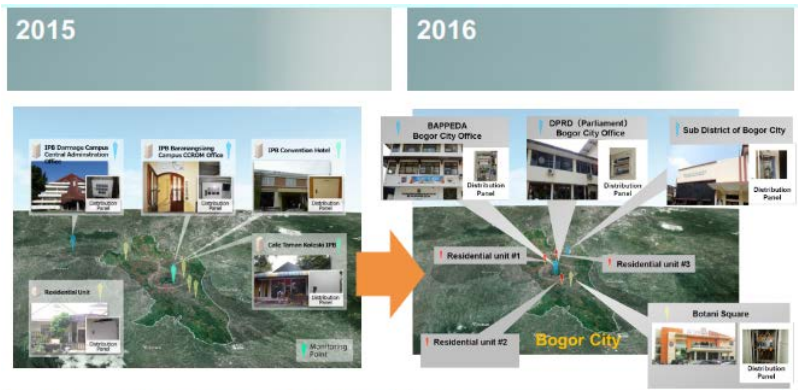
Action Plan Priority :

- 1 Energy Efficiency in equipment and appliances and Low Carbon Building Design
Mitigation potential :
a. Year 2030 : 165.113 tCO₂e b. Accumulated (2017-2030) : 1,333.557 tCO₂e
- 2 Afforestation/reforestation and Urban Greening
Mitigation potential :
a. Year 2030 : -1.625 tCO₂e b. Accumulated (2017-2030) : -12.022 tCO₂e
- 3 Bus Rapid Transit Development
Mitigation potential :
a. Year 2030 : 48.846 tCO₂e b. Accumulated (2017-2030) : 599.868 tCO₂e
- 4 Non Motorized Transport Fostering
Mitigation potential :
a. Year 2030 : 5.485 tCO₂e b. Accumulated (2017-2030) : 67.363 tCO₂e
- 5 Integral Solid Waste Management System and 3R
Mitigation potential :
a. Year 2030 : 35.264 tCO₂e b. Accumulated (2017-2030) : 227.720 tCO₂e
- 6 Increasing the capacity and scope of WWTP
Mitigation potential :
a. Year 2030 : 25.371 tCO₂e b. Accumulated (2017-2030) : 163.840 tCO₂e
- 7 Alternative fuels
Mitigation potential :
a. Year 2030 : 52.132 tCO₂e b. Accumulated (2017-2030) : 248.418 tCO₂e
- 8 Transport demand management (TDM) & Transit Oriented Development (TOD)
Mitigation potential :
a. Year 2030 : 37.720 tCO₂e b. Accumulated (2017-2030) : 248.751 tCO₂e
- 9 Waste-to-energy
Mitigation potential :
a. Year 2030 : 119.790 tCO₂e b. Accumulated (2017-2030) : 1,139.334 tCO₂e

STRATEGY

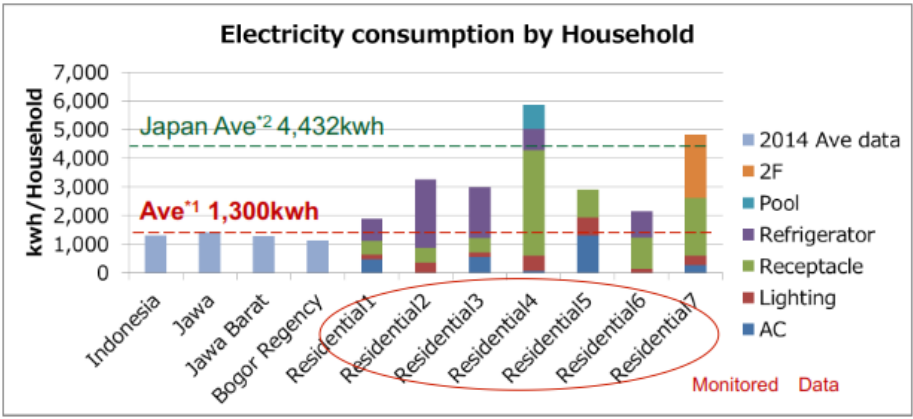
1. Campaign of **low carbon building design development**
2. Campaign of **efficiency for tools and equipments** in industry, commercial and settlement
3. Improve **biogas utilization** for clean energy
4. Campaign **energy alternative** utilization (CNG and biodiesel)
5. Improve **bus rapid transit** "Trans Pakuan"
6. Prioritizing **the cyclist and pedestrians**
7. Improve **sustainable transportation and public transportation services**
8. Aforestation and green **spatial planning**
9. Improve the **capacity of sanitation instalation**
10. Campaign of **3R and waste bank for solid waste management**

MRV Tools Supported by NIES - CCROM



Sector	Number of facilities	Start Date of Monitoring
Office Building	2	2015/03
Households	4	2015/03
Commercial	2 (café/ hotel)	2015/03

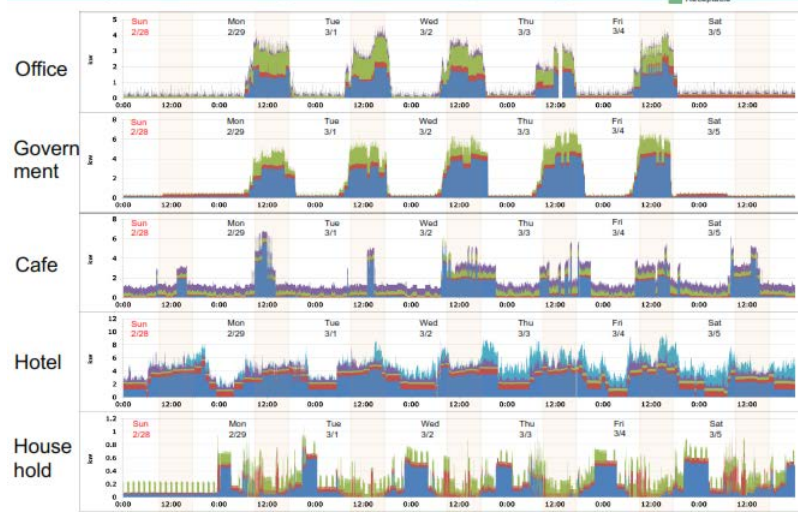
Sector	Number of facilities	Start Date of Monitoring
Government building	3	2016/02
Household	3	2016/01
Shopping Mall	1	2016/02



Display of monitored data in the Green Room at the Bogor City Hall



Weekly Monitoring Data in Bogor City



Electricity consumption by air-conditioners is high in all monitored sites

- Emission data
- Behaviour of electricity consumption
- Supporting for energy city policy strenghtening and campaign : Eco Office

Prospect of Bogor City Government in Smart City

Data Center

**Fiber optic network connecting all office
department**

Big bandwidth

Bogor Green Room/Command Center

Bogor dashboard

**READY FOR CLIMATE CHANGE MANAGEMENT
IN SMART CITY BASED**



The Needs for Action Plan Implementation

1. Automated **GHG Inventory and data related** – improve data quality – realtime/sensors - GIS : energy, traffic, pollution, land use, land temperature, temperature, humidity, precipitation, ground water availability, hazard and risk
2. **Research** related to climate change from academic and research institution for improve city policy and program : eco office (energy and resources efficiency), public awareness, socio economic related, etc
3. Monitoring, Reporting and Verification (methods, tools) to measure the impact of action plan implementation related to GHG emission reduction and adaptation
4. **Green building and green estate code development** for building permit
5. **Green infrastructure related mitigation and adaptation standards**
6. Funding for All the action plan implementation
7. Collaborating and supporting from all institution and community
8. Improve and accelerating the action plan implementation



Thank You
Hatur Nuhun