Enabling Environment for Scaling-up low carbon Initiative at City Level

A case study Retrofit CNG Buses in Semarang City

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Summary of AIM Analysis for [Semarang]

Cross Sector

In depth Study: Sectoral

Low Carbon City Scenario (LCS)

- Action 1: Green Industry
- Action2: Sustainable Transport
- Action 3: Smart Building
- Action 4: Smart Device
- Action 5: Green Energy

Transport Sector

IGES's 4 Steps Co-Benefit Approach

1. *First Step – Emission Inventory from Transport Sector*
2. *Second Steps – Prioritizing Local Actions*
3. *Third Steps – Quantifying the Impacts of Priority Policies*
4. *Four Steps – Translating Policy Recommendation into Practical Actions*

Model Project / Pilot

People Behaviour

Awareness Raising to use BRT for Junior High

Development of Low Carbon Infrastructure Projects (JCM Program)

Sustainable Transport

Conversion of CNG Bus

Green Energy

Mini Hydro

Solar PV

Model Pilot Project 2019

Scaling-up :

(1) City level (2019 – 2023)
(2) Across cities

Scaling-up from JCM Model Project to City Level

TRANS SEMARANG

2013
Bermitra dg IGES & ITDP

Tergabung dalam 100 resilient cities

2016
City Resilient Strategy

Policy research On Low Carbon City Scenario (IGES Japan)

Co-benefit Study on Transport in Semarang (UNDIP, AIT Thailand)

2017
Awareness campaign Promote BRT for High School Student (IGES & Save The Children)

Improvement of BRT System (IGES)

2017
JCM FS Study

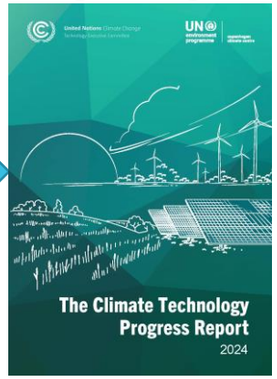
2018
JCM Model Project 72 (50%) buses

2019
Piloting: Learning process of Hybrid CNG-Diesel Bus by Trans Semarang

2020

2021-2022
Scaling-up to 249 buses (91.88% of total 271 buses)

Chapter 4: Institutional settings and governance



Four set component of scaling-up low carbon technology (Nugroho, 2015)

1. Build Capacity	2. Engage Stakeholders	3. Mobilize Resources	4. Share Learnings
• What are existing and needed capacities? • How can needed capacities be built? • What processes can help build these capacities? • What processes can consolidate existing capacities?	• Who are the key actors and organizations? • What are their interests and resources? • Is there sufficient coordination and communication? • What are possible points of contention and how might they be reconciled?	• What are the main sources of funding? • Are these sources sufficient or are outside resources needed? • What is the funding cycle? • What about other human and technological resources besides funding?	• How will performance be assessed? • What processes and mechanisms are in place for sharing performance and experiences? • Do existing processes and mechanisms reach all necessary stakeholders? • How can they reach other cities?

Analysis the Enabling Conditions of retrofit program in Semarang City

No	Components	Pilot Project Phase	Scaling-up to the city level
1	**Building Capacity**	• Knowledge accumulated for several year (2010 – 2017). It started by ACCCRN, familiar with climate change issue (adaptation) → shift to mitigation. Smooth transition, not start from scratch and zero. • *Many experts in local* • *Familiar with necessary data, available and easily to be accessed → helpful to develop concrete proposal*	• Technical and Skill capacity accumulated for during the pilot stage (2019 – 2020), familiar with trouble and solution for the operation and maintenance of new technology intervention. • *Familiar with monitoring data, verification and reporting (MRV) → helpful to develop data driven policy*
2	**Stakeholder engagement**	• Working group and social capital was exist through the adaptation activities. Establish working group to execute/implement the project (different team with study/planning team). • *Bottom up ideas, stakeholders decision making process, ownership of project by many parties, and leadership of city major.* • Once the decision was made by mayor, all lower level support the decision and have ownership to the project.	• Working with national government and stated owned company to overcome shortage of gas and its infrastructures. • Expand the network and corridors or services to increase the demand • Stakeholders engagement with private companies (bus service providers) to retrofit the bus • Convince the private companies with a tangible benefit based on MRV during the pilot/model project
3	**Mobilize Resource**	• Matching demand and supply (match matching process). Technology is available, local company also available to work with Japanese company • Size of project → necessary of budget that achievable (feasible) • *Critical success factor was a detailed understanding how the planning and budgeting process functioned in both theory and practice.*	• Set-up a data driven low carbon policy/standard for low-carbon buses • Led the scaling-up to a city wide by private companies without government spending