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Climate Change Mitigation in Transport Projects in Asia and the Pacific Region: Emerging lessons from UNDP – GEF portfolio

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Climate Change Mitigation Strategy – GEF funding

GEF 6 (2014-2018)

1. Promote innovation & technology transfer, and supportive policies and strategies

- Program 1: Promote timely development, demonstration & financing of low carbon technologies and mitigation options
- Program 2: Develop & demonstrate innovative policy packages & market initiatives

2. Demonstrate systemic impacts of mitigation options

- Program 3: Promote integrated low-carbon systems
- Program 4: Promote conservation and enhancement of carbon stocks in forest & other land use, & support climate smart agriculture

3. Foster enabling conditions to mainstream mitigation concerns

- Program 5: Integrate findings of Convention obligations & enabling activities into national planning processes & mitigation targets

GEF 7 (2018 -22)

RE – Storage, EE, EVs, Cleantech

Integrated approaches and resilience

Impact Programs – Sustainable cities

Goal:

To support developing countries and economies in transition in achieving transformational change towards development with low carbon emissions

GEF Transport Portfolio – emerging lessons

- Approximately 5% of total projects ~ 74 ST projects
- (UNDP – 22 No. GEF: USD 80 million ~ 1.2 billion)

Broad interventions

- Investments in new generation – technologies; Fuel Cell Bus, EVs
- Strengthening public transport systems – operational efficiency (Bus Rapid Transit systems)
- Integrated planning (ITS, NMT)
- Capacity building, Regulatory policy, institutional frameworks

Learning (indicative)

- Technology leapfrogging has pros and cons (e.g. limited suppliers)
- Investments in the overall “ecosystem” necessary
- “Event” driven (Olympics, FIFA)
- Coordination and mandate of partner agencies (transport and technology)
- Need for good baselines and data (monitoring)
- Significant projects dropped (24)

Reducing GHG emissions

UNDP-GEF Transport Portfolio Overview in the Asia Pacific region

Project	Country	GEF Period	Co-Financing (In Mio. USD)	GEF Amount
Sustainable Low-emission Urban Transport Systems	Bhutan	GEF-6	10.3	2.6
Accelerating the Development and Commercialization of Fuel Cell Vehicles	China	GEF-5	53.5	8.2
Promotion of Low Carbon Urban Transport Systems	Philippines	GEF-5	22.4	2.6
Achieving Low Carbon Growth in Cities through Sustainable Urban Systems Management	Thailand	GEF-5	91.9	3.2
Green Technology Application for the Development of the Low Carbon Cities	Malaysia	GEF-5	33.1	4.4
Sustainable Urban Transport Program	India	GEF-4	352.2	4.1

Sustainable Low – emission Urban Transport Systems in Bhutan

Objective: Facilitate low-carbon transition in the Bhutan’s urban transport sector by **promoting wider uptake of low emission vehicles (LEVs)**, particularly electric vehicles (EVs) as the preferred fuel source for transport.

Total Project Cost: 12.9 million USD, incl. 10.3 million USD co-financing

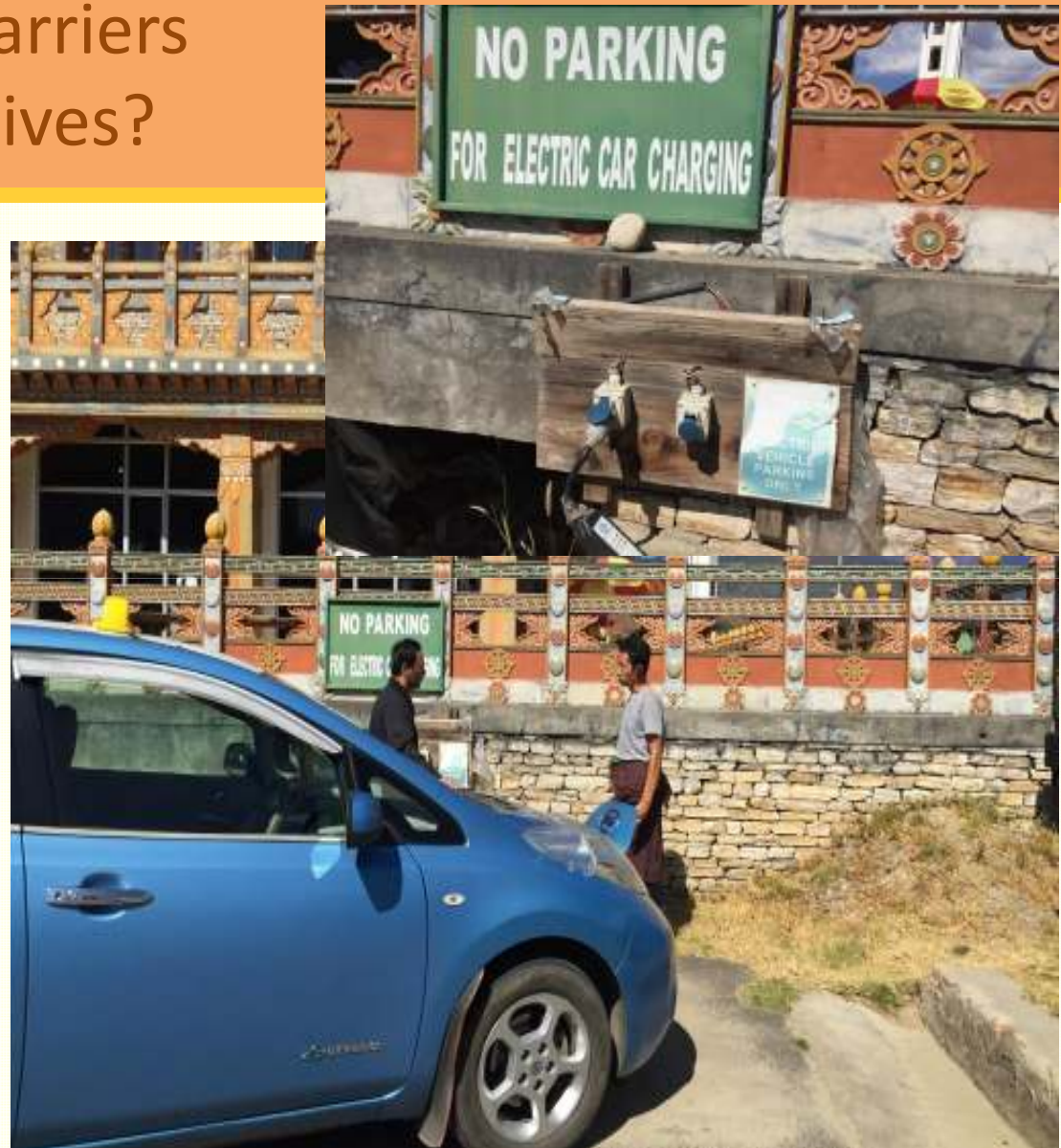
Context:

- **Urban population doubled** from around 150,000 in 2000 to 300,000 in 2015 – especially in Thimphu (from 43,479 to 122,242 people).
- **Increased demand for urban mobility.**
- **Alarming growth rate of private vehicles and problems associated with traffic growth** inc. traffic congestion, local air pollution, negative impact on health, and inefficient land use.
- The Royal Government of Bhutan (RGOB) aims to **deploy 3,000 electric vehicles (EVs)** by 2020

EV promotion Imperatives:
- Carbon neutrality
- Energy security
- Forex drain/Offset Oil Import bills

What are the main barriers to achieve the objectives?

- **Lack of clear/enabling policy and regulatory framework** (limited capacity, No officially approved target for EVs, e-waste disposal)
- **Existing attitudes and misperceptions** (low awareness, lack of standards)
- **Limited coordination among different institutions** – need clarification on the roles and responsibilities of agencies. (MOIC, BEC)
- **High up-front cost** – consumers choices are being influenced by short-term considerations.
- **Inadequate EVs supply equipment (charging stations)**



Sustainable Low – emission Urban Transport Systems in Bhutan

Interventions

Component 1: Policy support for low-emission transport

- Regulations and policy guidelines to enable operations of EVs
- Mid-term and long-term target for national EV and EVSE developed
- Technical capacity of the relevant agencies enhanced

Component 2: Awareness and capacity development

- Awareness campaigns, technical training implemented on EVs

Component 3: Investment in low-emission transport systems and support services

Financial support mechanism for EVs established
Charging infrastructure expanded
Financial regulations revised to for EV Discount Program implementation

Outcomes

- Reduced 43,000 tCO₂/lifetime or 3,440 tCO₂/year
- Increased the fleet of EV taxis to 300, with number of 300,000 passengers per year



Lessons so far.....

- Transformation and ecosystem approaches with stakeholder engagement are key (policy, technical, operational, environment, capacity and institutional, market, finance – “Mindset”/behavioural)
- Push factors – “political will” and clear imperatives are important basis for project implementation
- Effective risk management mitigation is crucial – e.g., supplier selection (technical and performance risk)
- Decision making requires access to impartial information sources (e.g., process of setting up of standards)
- Innovations needed to strategize sustainability of interventions beyond the project phase - private sector leverage/continuation of EV discount scheme/exit, upscaling, etc.

Green Technology Application for the Development of the Low Carbon Cities (GTALCC) in Malaysia

Objective: Facilitate the implementation of low carbon initiatives in at least five Malaysian cities and showcase a clear and integrated approach to low carbon development (support low carbon cities programme)

Total Project Cost: 59.9 million USD (GEF:4.3 M), with 55.6 million USD co-financing

Context:

- As of 2010 Census, more than 72% of the Malaysian population live in the urban areas, and growing around 3.3% annually.
- Due to the rapid increase in population density, Malaysia's GHG emission levels are relatively high compared to other countries in the region at similar stages of development.
- Malaysia has made low carbon development a key feature of its development agenda, including: committed to reduce its emission intensity by up to 40% compared to 2005 levels, and developed the Tenth Malaysia Plan (10MP) and Low Carbon Cities Framework (LCCF).

Imperatives:

- Urbanization challenges
- Environment - international commitments

What are the main barriers to achieve the objective?

- **An incomplete policy and regulatory framework** – cities and states need to translate the national action GHG emission reduction agenda into local action.
- **Lack of awareness and institutional capacity for low-carbon planning** – lack of awareness and knowledge sharing on low carbon and integrated urban development limiting the ability of cities to plan and implement actions.
- **Lack of capacity of cities to mobilize finance** – unable to access finance or overcome the high cost of entry for some green technologies such as pilots and demonstrations of electric buses.

How GTALCC address these barriers?

Interventions around 5 key components

Component 1: Major cities implemented and adopted integrated low carbon urban development plans and/or programmes

Component 2: Expedient appraisal, approval and implementation of strategic urban development plans/programmes and projects

Component 3: Major cities are aware of, and are planning and implementing low carbon technology applications for integrated urban development

Component 4: Increased investment on low carbon technology application in the cities

Component 5: More low carbon urban infrastructure projects implemented in Malaysian cities

➤ Reduced 346,422 tCO₂ by end of the project

Lessons so far.....

- Diversified partnerships with a number of local authorities create momentum for integration of low carbon technology applications in city planning (Putrajaya and Iskandar Malaysia have gazetted their low carbon development plans)
- Showcasing of improved appraisal process of project sanctioning and approval in cities (Subang Jaya and Shah Alam) – standardization of tools and consistency of the process remain as challenges.
- Overlapping mandates (low carbon mobility vs. low carbon city framework) and synergies explored through integrated planning and implementation require approvals at different levels.
- Investment priorities changes! (implications on mitigation efforts) and access to mobilizing financial resources are limited.

Interim conclusions

- Integration of low carbon strategies, institutionalizing synergies and adoption of innovations (technological, institutional and financial) enhance resilience and mitigation potential in transport sector.
- Accelerated investment in transport infrastructure must be enabled through conducive enabling frameworks (ecosystem/holistic and integrated approaches)
- Capacity building, (incl. behavioral aspects) and institutional coordination remain key challenges
- Knowledge networks – access to and contributions could facilitate “leap frogging” significantly and manage risks! (e.g, tools, recently GEF supported GPSC)

Thank you