

Department of Transportation and Communications Republic of the Philippines

Financing Sustainable Transport System

Ministerial Conference on Global Environment and Energy in Transport (MEET) Follow-Up Meeting

> Hakodate Kokusai Hotel, Hakodate-City, Hokkaido, Japan 17 – 18 June 2009

Presentation Outline

- Background
- Mitigation Options
- Current Effort in Mass Transport System
- Resource Mobilization Towards EST

Philippines CC Country Profile



- Population : 90 million
- Archipelagic Country with 64 of its 79 provinces are coastal; roughly 2/3 population living along coastal and floodplains
- 1000-4000 mm annual rainfall, 38% from tropical cyclones; monsoons
- GHG Emissions : 83 million metric ton CO2/yr
 - Emission per capita :1 metric ton
- Energy use per capita : 542 kg oil equivalent
- Forest Area : 24 % of Land area
 - High annual rate of deforestation 2.2 %
- Already prone to natural disaster lies along the western rim of the Pacific Ring of Fire (active volcanoes and major earthquake faults) and the Pacific typhoon belt
- Highly exposed to tropical cyclones (especially in the northern and eastern parts of the country) but also to many other climate-related hazards—especially floods such as in Central Luzon and Southern Mindanao, landslides due to the terrain of the country, and drought.

Source: The Manila Observatory

- Globally, the Philippines is a minor emitter of GHGs, but cost-effective mitigation present opportunities that should be captured. The country accounts for less than 0.3 percent of global GHG emissions. However, emissions are on the rise from both energy-use and land-use changes.
- CDM has an active portfolio in the Philippines. There are no less than 23 CDM projects registered with the Clean Development Mechanism (CDM) Board in the Philippines, and three more in the pipeline. Generally concerns management of agricultural waste or wastewater and promotion of renewable alternatives to fossil fuels. The total estimated reduction in CO2e per annum is slightly less than one million tons.

- □ The Government's response to the climate change challenge has been active institutionally, but a clear strategy and action plan is still lacking. The international donor community—including ADB, ISDR, MCC, JICA and UNDP--is actively engaged in addressing climate change in the Philippines. There are several initiatives on capacity building for GHG accounting, monitoring and reporting, for preparation of a second National Communication to the UNFCCC , governance, renewable energy, urban air quality and forest management.
- ADB-WB-IFG Joint Reconnaissance Mission on Clean Technology Fund last 04-12 May 2009 towards the formulation of Country Investment Plan.

Philippine Climate Change Initiatives

- 2 August 1994: UNFCCC Ratified
- 23 June 1999: Clean Air Act signed (R.A. 8749)
- December 1999: Initial National Communications submitted
- 20 November 2003: Kyoto Protocol Ratified
- January 2007 : Republic Act 9367 otherwise known as the Biofuels Act of 2006
- 20 February 2007: Presidential Task Force on Climate Change (PTFCC) created (A.O. 171)
- 25 September 2007: Advisory Council on CC Mitigation, Adaptation and Communication created (DENR S.O. 2007-453)
- Renewable Energy Act of 2008 Signed
- December 26, 2008: Reorganizing the Presidential Task Force on Climate Change (E.O. 774)
- January 30, 2009: Formulation of a National Environmentally Sustainable Transport Strategy for the Philippines (A.O. 254)

Previous GHG Estimates



Source: Philippines Initial National Commitment on Climate Change, 1999



Source: Climate Analysis Indicators Tool (CAIT), World Resources Institute, 2008

Baseline GHG Estimated by Fuel Type in MtCO2 (2007)



Transport total emission = 29.3 tCO2

Road Transport (2007)



Integrated Strategy for Vehicle Pollution Control



Mitigation Options

Options	ALGAS	AQM Plan	EST	Status	
	1998	2006	2009		
Increased vehicle efficiency					
1. Mandatory fuel efficiency inspection/checkups				Proposed nationwide MVIS	
2. Vehicle tax policy for efficient vehicle purchase				Incentives adopted	
3. Vehicle fuel consumption labelling program				DOE fuel economy runs	
Alternative transport fuels					
1. Natural gas (liquefied/compressed)/LPG				Biofuel Act	
2. Alcohol (methanol/ethanol)/CME				Alternative Fuels Program	
3. Hydrogen				None planned	
4. Electricity (from NG and non-fossil fuels)				Limited to Manila LRTs	
Improved transport system management					
1. Appropriate pricing mechanisms (policy option)				Vehicle restriction adopted	
2. Parking and TDM				In some LGUs	
3. High-occupancy vehicle lanes				EDSA bus lanes	
4. Mass transit (e.g. LRT, BRT)				Planned LRT/BRT lines	
5. Non-motorized transport				Marikina Bikeways	
6. Urban land use planning				Released to LGU CLUP/ZO	

Options with High Potentials

Options	Impact	Cost of Carbon Emission Reduction, USD/tCO2e
MVIS and road maintenance	Improvement in fuel economy	2.3
Optimization PT operation	Reduction in VKT	5.4
BRT introduction	Reduction in VKT	8.9
LPG conversion of cars	Improvement in fuel economy	9.7
NG conversion of vehicles	Improvement in fuel economy	45.8 (preliminary estimate)



LRT Line 1 South Extension Project (USD 1.2B) to extend the existing 15km LRT Line 1 system southward by an additional 11.7km, 10 pax stations, satellite depot and 72 LRV over the concession period. To serve total projected weekday average ridership of 745K by 2015 and 825K by 2030.

Risk Allocation		Private Sector Financing	ODA	
1	Construction Completion	Concessionaire bears construction risks. -Concessionaire is required to enter into a single turnkey EPC contract for the Civil and E & M Works to mitigate the construction risks.	Government bears construction risk-sets measures to mitigate risk through EPC Contract	
2	Operation & Maintenance Risk	Concessionaire bears operating and maintenance risks during the 30 years post construction concession period. Concessionaire is required to raise financing for all SEW required	Government bears operating risk	
3	Interest Rate Risk	Concessionaire bears risks related to financing costs. Government will bear financing risk with respect to the public component financed by World Bank	Government bears financing risks	
4	Ridership Risk	Concessionaire bears the risk. No guaranty on equity return and no minimum ridership level will be provided by the Government	Government bears all risks since it is responsible for the operation of the integrated line	
5	Foreign Exchange Risk	Concessionaire is expected to manage currency risk during construction		
6	Contingent Liabilities	Government to provide several performance undertakings to the Concessionaire. If the Concessionaire fails to achieve financial closure and is not able to repay it's debts, government will have to take over the system and refinance the project. If Government can not implement the fare structure imposed by the concessionaire, Government has to compensate the concessionaire with the difference in fares.	Government bears all risks since it is responsible for the operation of the integrated line	

Current Efforts on BRT

- Pre-FS completed with funding from USAID/ECAP
- FS soon to start with funding from WB
- Possibilities in other Philippine cities
 - Potential funding for studies
 - Possible funding for project implementation



Cebu, Makati, Taguig, Davao

Economic Parameters

Corridor	Project Cost	Cost/km	Economic Parameters	
			B/C	EIRR
EDSA-Binangonan Pilot Corridor	PhP 3,337.6	139.07	4.18%	42.23%
C-5 (SLEX-Commonwealth) Pilot Corridor	PhP 2,715.90	129.33	3.93%	47.68%

- BRT infrastructure costs are a fraction of the costs of a light-rail-based transit
- BRT offers the possibility to integrate current operators and staff in operations of new system
- BRT buses can support DOE CNG program
- Make use of funding mechanisms like GEF to support studies, design and implementation



Resource Mobilization



Motor Vehicle User's Charge (MVUC)

- The MVUC was established in 2000 thru RA 8794 "Act Imposing a Motor Vehicle User's Charge on Owners of all Types of Motor Vehicles and for other purposes" to minimize air pollution through implementation of a comprehensive program for the preventive, control and management of air pollution.
- Collected as part of the annual registration fee of a vehicle that is paid to the Land Transportation Office and used to replenish 4 special funds dedicated to specific purposes.

Account	Share	Exclusive Purpose
Special Support Fund	80.0%	Maintenance of National Primary Roads, maintenance of the National Secondary Road. Improvement of drainage system
Special Local Road Fund	5.0%	Maintenance of Local Roads. Traffic and road safety devices of city and provincial governments
Special Road Safety Fund	7.5%	Installation of road safety devices and road safety programs and projects under the NRSC
Special Vehicle Pollution Control Fund	7.5%	Programs for prevention, control and management of air pollution from mobile sources (Annual Collection : 2006 \$175.77M, 2007 \$181.64M and 2008 \$183.53M)

Collection Process Flow



Example of SVPCF Projects:

□ Inspection and Maintenance (I/M)

- Development of Motor Vehicle Inspection System : \$ 53.19M
- Planning Support Capacity Building for DOTC and LTO on the Implementation of a Phil Nationwide Motor Vehicle Inspection and Maintenance Program (NMVIMP) – \$ 320K

Transport Planning and Demand Management

- Public Transport Network Development Plan for Mega Manila and Other Key Cities
 - Development of Mega Manila Public Transportation Planning Support System (MMPTPSS): \$ 575K
 - Development of Public Transportation Strategic Plan for Metro Cebu : \$ 745K
 - Center for Research in EST (CREST) : \$ 320K

Cleaner Fuel

• Conversion of PT to Alternative Fuels Program : \$ 6.38M

Vehicle Technology

• Development of CLRV Standards : \$ 65K

Thank you for your kind attention.

