Country Report
PHILIPPINES

2nd EST Forum
11-12 December 2006, Yogyakarta, Indonesia

Efforts on Environmentally Sustainable Transport

Undersecretary Anneli R. Lontoc
Department of Transportation and Communications
I. Major EST-oriented Policies

Republic Act 8749 (R.A. 8749) – The Philippine Clean Air Act (CAA) of 1999

- a comprehensive air pollution control policy
  - provides for close inter-agency collaboration among the Department of Environment and Natural Resources (DENR), Department of Transportation and Communications (DOTC), Department of Trade and Industry (DTI)
  - provides for extensive partnership of these agencies with the local government units (LGUs) and non-governmental organizations (NGOs) in the pursuit of the CAA objectives.

Republic Act 8794 (R.A. 8794) - MV Users’ Charge Law

- Special Vehicle Pollution Control Fund – 7.5%
- Special Road Safety Fund – 7.5%
AIR QUALITY POLICIES

- Formulation of a comprehensive national program on air pollution management

- Encourage cooperation and self-regulation among cities and industries

- Focus primarily on pollution prevention rather than on control

- Active public participation in air quality planning and monitoring

- Accountability system for short and long term adverse environmental impact of a project or activity which shall include setting up of a funding or guaranty mechanism on clean up and environmental rehabilitation
Government Initiatives

- Promotion of public health
- Land use planning
- Environmentally and people-friendly urban transport infrastructures
- Public transport planning and transport demand management
- Non-motorized transport
- Social-equity and gender perspective
- Road safety and maintenance
- Strengthening road side quality monitoring and assessment
- Traffic noise management
- Cleaner fuel
- Vehicle emission control, standards and inspection and maintenance
- Strengthening knowledge base, awareness, and public participation
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Sources of Air Pollution

*Includes power plants, factories, industries, restaurants and most recently, the indiscriminate burning of garbage

**Of the estimated 2 million+ Vehicles in Metro Manila:

- Jeepneys: 500,000
- Buses: 5,000
- Tricycles (2-stroke): 120,000

INDUSTRY & HOUSEHOLDS

VEHICULAR EMISSIONS
**Health Impact of Particulate Matter in Metro Manila:**

<table>
<thead>
<tr>
<th><strong>Effects</strong></th>
<th><strong>Number of cases</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic bronchitis</td>
<td>12,000</td>
</tr>
<tr>
<td>Asthma</td>
<td>436,000</td>
</tr>
<tr>
<td>Bronchitis in children</td>
<td>112,000</td>
</tr>
<tr>
<td>Emergency room visits</td>
<td>45,000</td>
</tr>
<tr>
<td>Hospital admissions</td>
<td>2,000</td>
</tr>
<tr>
<td>Restricted activity (days)</td>
<td>11,000,000</td>
</tr>
<tr>
<td>Respiratory symptoms (days)</td>
<td>35,028,000</td>
</tr>
</tbody>
</table>

**Total cost of PM$_{10}$ exposure**  
US$430 million

Source: Dept. of Health, 1999
## Prevalence of Chronic Respiratory Illnesses

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>COPD*</th>
<th>PTB**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeepney drivers</td>
<td>32.5%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Aircon bus drivers</td>
<td>16.4%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Commuters</td>
<td>14.8%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

*COPD or chronic obstructive pulmonary diseases - characterized by shortness of breath and difficulty in breathing due to limited airflow to the lungs

**PTB or pulmonary tuberculosis – refers to a recurrence of childhood TB that affects the lungs

Source: Philippines Environment Monitor 2002 – Air Quality (citing an epidemiology study conducted by the UP College of Public Health with support from the World Health Organization)
Government Initiatives

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Land Use Planning Initiatives

- National Land Use Committee

- Major cities have their own masterplans
  - Vehicle reduction programs
  - Establishment of transport terminals outside of CBDs
  - Development of public parks
  - Pedestrianization

- Some LGUs have specific land use planning policies
  - Reduction of the average trip distance within cities
  - Promotion of mixed use development
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Environmentally and people-friendly urban transport infrastructure facilities

LIGHT RAIL TRANSIT IN THE PHILIPPINES
Environmentally and people-friendly urban transport infrastructure facilities

- Yellow Plates on Yellow Lane
- Integrated Bicycle Lane to Marikina City has 45 km network
- Pedestrianized space is estimated at 66 kms
- 60% of the stations of the light railway transit (LRT) lines in Metro Manila are equipped with facilities for handicapped, the elderly people, pregnant women and children
- Metro Rail Transit (MRT3) has dedicated couches for women passengers
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Mabuhay Public Transport Development and Promotion Program

- Public Utility Vehicle Rationalization Program
  - Mega Manila Public Transport Study
  - Public Utility Jeepney Route Rationalization Program
  - EDSA Bus Revalidation Survey
  - North and South Luzon Inter-regional Bus Routes Rationalization

- Multi-Modal Terminal Development Projects

- Bus Rapid Transit Program
Mabuhay Government Initiatives

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Mabuhay

Social Equity and Gender Perspective

1. Separate lanes for male/female at some MRT3 stations
2. 20% fare discount to students, senior citizens, people with disabilities in public transportation
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1. Responsible bodies for road traffic safety policy

- National Road Safety Committee (NRSC)
  - Created in 1996
  - Composed of the following agencies
    - Chairman – Secretary, Department of Transportation and Communications
    - Members – Secretary, Department of Public Works and Highways
    - Secretary, Department of Education
    - Secretary, Department of Health
    - Secretary, Department of Interior and Local Government
    - Representatives of the Safety Organization of the Philippines (SOPI) and the Automobile Association of the Philippines (AAP)

2. Laws relating to the road traffic safety policy

- Republic Act (R.A.) No. 4136
  - “Land Transportation and Traffic Code”
  - June 20, 1964
  - registration and operation of motor vehicles and the licensing of owners, dealers, conductors, drivers, and similar matters

- Commonwealth Act (C.A.) No. 146
  - “Public Service Act”
  - franchise to operate public utility vehicles such as taxis, buses, jeepneys and trucks.

- R.A. No. 7160

- R.A. No. 7924
  - creates the Metropolitan Manila Development Authority

- R.A. No. 8749
  - the Clean Air Act of 1999

- R.A. No. 8750
  - the Seat Belt Use Act of 1998

- R.A. No. 8794
  - the Road Users’ Charge Law
3. Major issues/problems concerning road traffic safety

- Coordination and management of road safety
- Road accident data system
- Road safety funding
- Safe planning and road designs
- Improvement of hazardous locations
- Road safety education of children
- Driver training and testing

- Road safety publicity campaign
- Vehicle safety standards
- Traffic legislation
- Traffic police and law enforcement
- Emergency assistance to road accident victims
- Road safety research
- Road accident costing
- Private sector and community involvement
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THE ANTI-SMOKE BELCHING PROGRAM

Roadside vehicle emission inspection is done by the DOTC/LTO thru its Anti-Smoke Belching Unit (ASBU) and its duly deputized agents, including LGUs and MMDA personnel.

CAA penalties for smoke belchers:

First Offense : P 1,000
Second Offense: P 3,000
Third Offense : P 5,000 + seminar on pollution management
Intensification Of Monitoring Smoke Belching Operations From Mobile Sources
BANTAY TAMBUTSO

GARAGE/FLEET TESTING

- TRANSPORT COOPERATIVES
- NGOs, GOVT. AGENCIES AND VARIOUS PUV ASSOCIATIONS
SMOKE FREE EDSA CAMPAIGN

a total of 28,765 vehicles were inspected, about 18,645(64%) failed the test and 10,120 (36%) have complied with the emission standards.
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PROMOTION OF CLEANER FUELS

BIODIESEL - Coco Methyl Ester (CME) “Coco Diesel”

COMPRESSED NATURAL GAS (CNG) & LIQUIFIED PETROLEUM GAS (LPG)

Coming Soon: Bio-fuels Act
## FUEL QUALITY

### Unleaded Gasoline

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aromatics</td>
<td>45% max</td>
<td>Jan. 1, 2000</td>
</tr>
<tr>
<td>Benzene</td>
<td>4% max</td>
<td>Jan. 1, 2000</td>
</tr>
<tr>
<td>AKI</td>
<td>87.5 min</td>
<td>Jan. 1, 2001</td>
</tr>
<tr>
<td>RVP</td>
<td>9 psi max</td>
<td>Jan. 1, 2001</td>
</tr>
<tr>
<td>Aromatics</td>
<td>35% max</td>
<td>Jan. 1, 2003</td>
</tr>
<tr>
<td>Benzene</td>
<td>2% max</td>
<td>Jan. 1, 2003</td>
</tr>
</tbody>
</table>

### Automotive Diesel

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur</td>
<td>0.2% max</td>
<td>Jan. 1, 2001</td>
</tr>
<tr>
<td>Cetane No./Index</td>
<td>48 min</td>
<td>Jan. 1, 2001</td>
</tr>
<tr>
<td>Sulfur</td>
<td>0.05% max</td>
<td>Jan. 1, 2004</td>
</tr>
</tbody>
</table>

### Industrial Diesel

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur</td>
<td>0.3% max</td>
<td>Jan. 1, 2001</td>
</tr>
</tbody>
</table>
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Private Emission Testing Centers (PETCs)

- An interim program and a stop gap measure prior to the full operation of MVIS
- Commissioned by the Government through Accreditation by the DTI and Authorization by the DOTC/LTO.
- Conduct regulatory test independent from the government testing function.
Private Emission Testing Centers (PETC)

Vehicle emission control, standards and inspection and maintenance

CAA’s OBJECTIVE OF MV EMISSION REDUCTION

DOTC + DTI + DENR = JOINT ADMINISTRATIVE ORDER (JAO) NO.1, SERIES OF 2003

DOTC/LTO - AUTHORIZATION
DTI - ACCREDITATION
DENR - SET EMISSION STANDARDS/CERTIFY EMISSION TESTING EQUIPMENT
Vehicle emission control, standards and inspection and maintenance

INTERGOVERNMENT MONITORING OF PRIVATE EMISSION TESTING CENTERS
Joint Administrative Order No. 1 Series of 2003, the Guidelines and Procedures for Monitoring Private Emission Testing Centers (PETCs) - DOTC, DTI, DENR, LTO etc. to monitor activities of the PETCs.
Regulation for all motor vehicles and engines

Certificate of Conformity
COC- 828 COCs for motor vehicle models while 292 for motorcycles.
## REVISION OF IN-USE MOTOR VEHICLE EMISSION STANDARDS

<table>
<thead>
<tr>
<th>Revised (DAO 2003-51)</th>
<th>Old (DAO 2000-81)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of 1st Registration</td>
<td>Date of 1st Registration</td>
</tr>
<tr>
<td>(CO (% volume))</td>
<td>(CO (% volume))</td>
</tr>
<tr>
<td>(HC (ppm as hexane))</td>
<td>(HC (ppm as hexane))</td>
</tr>
</tbody>
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</tr>
<tr>
<td>(HC (ppm as hexane))</td>
<td>(HC (ppm as hexane))</td>
</tr>
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</table>

- On or before 12/31/2002: 4.5 CO, 800 HC
- On or after 01/01/2003: 3.5 CO, 600 HC
- On or before 12/31/1997: 4.5 CO, 800 HC
- 01/01/1997 - 12/31/2002: 3.5 CO, 600 HC
- On or after 01/01/2003: 0.5 CO, 100 HC
REVISION OF MC/TC EMISSION STANDARDS

HydroCarbon (HC)

7,800 ppm - urban areas
10,000 ppm - rural areas
PROMOTE THE USE OF CLEANER ENGINES

1. EXPAND THE USE OF FOUR-STROKE ENGINES FOR MOTORCYCLES AND TRICYCLES

<table>
<thead>
<tr>
<th>Country</th>
<th>New 4-stroke motorcycles (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>100</td>
</tr>
<tr>
<td>China</td>
<td>85</td>
</tr>
<tr>
<td>Thailand</td>
<td>82</td>
</tr>
<tr>
<td>India</td>
<td>60</td>
</tr>
<tr>
<td>Philippines</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: Clean Air Initiative 2002

2. FACILITATE THE ENTRY OF ELECTRIC-POWERED MOTORCYCLES OR ELECTRIC BIKES
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Increasing Public Awareness and Participation

- Smoke free EDSA campaign brochures, streamers, T-shirts and visors
- Linis hangin program streamers, brochures, flyers, posters and stickers
- Clean Air Month streamers
- Posters and brochures on Clean Air Act Milestones and Towards Cleaner Air
- Television, Radio and Musical television plugs on clean air; co-produced by GMA 7
Increasing Public Awareness and Participation

Conduct Anti-Smoke Belching campaign action plan & communication strategies for LGUs;

Clean Air Forum on environment-friendly and cost effective vehicle handling and maintenance for Bus Transport, EDSA Bus Operators

Conduct of forum on Local Governance for Clean Air where nine LGUs shared stories on LGU-initiated projects related to clean air.
The DENR, in partnership with various stakeholders, pursues the Green Philippine Highways Project.
Thank You!