THAILAND’S ENVIRONMENTALLY SUSTAINABLE TRANSPORT MASTER PLAN

Low Emissions Development Strategies and the Transportation Sector

30 September 2013

Manila, Philippines

Office of Transport and Traffic Policy and Planning (OTP) Ministry of Transport, Thailand
TOPIC

• Current situations

• Environmentally Sustainable Transport Master Plan
Bangkok Metropolitan Region, BMR
POPULATION: 17.5 millions
AREA: 7,760 sq.km.
GDP 68% of National GDP
Bangkok’s Land Use (Urban Sprawl)

กราฟขยายตำแหน่งจากภาพถ่าย dennปี 2531-2545

1988

2002

ขอบเขตพื้นที่สีเขียว
Bangkok situation
Number of Vehicle registration: 2003 - 2012

Source: Department of Land Transport
Quality of Life

The CO$_2$ PROBLEM IS A TRANSPORT PROBLEM, PREDOMINATELY CARS AROUND URBAN AREAS
Air Pollution

- Health Impact
- Air pollution from transport sector (Bangkok)
  - 75% of CO
  - 80% of NOx
  - 54% of PM
Social Impact

- Road Accident
- Injuries
- Death
- Stress
GHGs Emission by Sector: 2011

- **Energy**: 87,162, 39%
- **Transportation**: 59,806, 27%
- **Industry**: 54,600, 25%
- **Other**: 19,891, 9%

Unit: 1,000 ton CO2

Source: Thailand Energy Statistic 2012
Volumes of Greenhouse gas released by Thailand’s Transport Sector

Source: National Greenhouse Gas listing
11th Thailand National Economic and Social Development Plan
(Transport Sector During Year 2010-2015)

- Change to Alternative Energy, Green Energy and Efficiency use in Energy
- Road and Rail integrated Network around country and Neighboring Country
- Improve Multi-modal Transportation
- Improve Transport System, Efficiency, Effectiveness, Accessibility, Safety, Transport for all, (Aging people and Handicap)
- More Public Private Participation (PPP) Investment

International Trade Agreement
Climate Change
Sub – regional Corporation
Energy
Aging Society

Green Transportation
Ministry of Transport

Vision: Toward Sustainable Transport

Transport and Traffic Development Master Plan 2011 - 2020

Economic prosperity
- Decrease economic loss (VOT, VOC)
- Increase Competitiveness

Environmental friendly
- Energy saving
- Energy efficiency
- Reduce air emission & GHGs reduction

Social & Quality of life
- Safety
- Accessibility
- Equity
- Sufficiency

Sustainable Transport
Master Plan Development

**Internal Driving force**

- Environment
- Economic
- Social

**International Driving Force**:
- EST forum
- Rio+20
- UNFCCC

**Environmental Sustainable Transport Masterplan**
SUSTAINABLE TRANSPORT MASTER PLAN

Bangkok Declaration
EST 2010 - 2020

Avoid
Shift
Improve

Reduction of GHG and Transportation Emission

Infrastructure and Demand Management Measure

Information and Technology Measure

Policy and Regulation Measure

Awareness on Environment Measure

Public Transport and Non-Motorized Mode
Strategic Plan for Sustainable Transport:

**Strategy 1:** Upgrade capability of agencies and personnel for the development of an environmentally sustainable transport system.

**Strategy 2:** Establish appropriate plans and mechanisms for interfacing and monitoring of transport and traffic work plans/measures/projects; and to move them forward to implementation.

**Strategy 3:** Establish comprehensive and inter-connected transport infrastructure.

**Strategy 4:** Efficient transport management for sustainability and greenhouse gas reduction.

**Strategy 5:** Promote transport R&D and adoption of environment-friendly innovations and technologies.

**Strategy 6:** Promote public awareness of the environment.
GHGs emission from Transport sector

![Graph showing GHGs emission from Transport sector with years 2005 to 2030 and emissions in Mt-CO2. The graph includes BAU, Target, and Potential scenarios.]
## Potential GHGs reduction in Transportation Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>GHGs at BAU (Million tons CO₂ e)</th>
<th>Potential of GHGs reduction (Million tons CO₂ e)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>57.52</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2017</td>
<td>67.53</td>
<td>11 - 13</td>
<td>16 - 19</td>
</tr>
<tr>
<td>2020</td>
<td>74.02</td>
<td>15 - 16</td>
<td>20 - 22</td>
</tr>
<tr>
<td>2030</td>
<td>102.82</td>
<td>27 - 30</td>
<td>26 - 29</td>
</tr>
</tbody>
</table>
Barrier Removal Activities

- **Capacity building** (e.g., financial evaluation, technology application, energy-integrated urban transport planning)

- **Institutional strengthening** (e.g., regulatory frameworks, vehicle emission standards)

- **Investments** (e.g., demonstration & replication projects)

- **Training** (e.g., design, operation, maintenance of vehicles and transport systems)

- **Targeted research** (e.g., adaptation of technologies, techniques, practices to local conditions)
Conclusion

- **Avoid**
  - Urban planning
  - Complex city

- **Shift**
  - Mode of Transport: public and mass transit
  - Freight: road to rail

- **Improve**
  - Vehicle/fuel standard
  - Technology

- **Cross cutting**
  - Safety: Decade of road safety
  - Climate Change
  - Awareness

- **EIA & HIA**


- **Most difficult**
  - Not yet

- **Implementing**
  - Largely Implemented

Thailand’s EST Master Plan 120 projects/plans/policies
Thank you