Country Paper: TURKEY

Regional Capacity Building Workshop on Measurement of Inland Transport CO2 Emissions and Mitigation Policies

27 September 2013
UNESCAP
BANGKOK, THAILAND
## Transport emissions (local pollutants, CO₂, GHG)

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG Emissions from Transport Sector (Gg CO₂ eq.)</td>
<td>47,945,82</td>
</tr>
<tr>
<td>a. Aviation</td>
<td>3,367,56 (%7,02)</td>
</tr>
<tr>
<td>b. Road Transportation</td>
<td>41,689,19 (%86,95)</td>
</tr>
<tr>
<td>c. Railways</td>
<td>482,17 (%1,01)</td>
</tr>
<tr>
<td>d. Navigation</td>
<td>2,406,90 (%5,02)</td>
</tr>
<tr>
<td><strong>Total National GHG Emissions</strong> (All sectors: Energy, Industrial Processes, Land Use, Agriculture, Waste etc.)</td>
<td><strong>378,775,57</strong></td>
</tr>
<tr>
<td><strong>Transport's share of total national GHG emissions</strong></td>
<td><strong>%12,66</strong></td>
</tr>
</tbody>
</table>
# Fuel Consumption (litre per year)(1000 tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Aviation</td>
<td></td>
</tr>
<tr>
<td>Gasoline</td>
<td>2,632</td>
</tr>
<tr>
<td>Jet Kerosene</td>
<td>1058,515</td>
</tr>
<tr>
<td><strong>Road Transport</strong></td>
<td></td>
</tr>
<tr>
<td>LPG</td>
<td>2572,288</td>
</tr>
<tr>
<td>Gasoline</td>
<td>1805,82</td>
</tr>
<tr>
<td>Gas/Diesel Oil</td>
<td>8580,755</td>
</tr>
<tr>
<td>Biofuel</td>
<td>20</td>
</tr>
<tr>
<td><strong>Rail Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Gas/diesel Oil</td>
<td>149,652</td>
</tr>
<tr>
<td>National Navigation</td>
<td></td>
</tr>
<tr>
<td>Gas/Diesel Oil</td>
<td>638,997</td>
</tr>
<tr>
<td>Residual Fuel Oil</td>
<td>54,755</td>
</tr>
</tbody>
</table>
### Road Infrastructure

<table>
<thead>
<tr>
<th>Road Types</th>
<th>Asphaltic Concrete</th>
<th>Surface Treatment</th>
<th>Stone Block</th>
<th>Stabilized</th>
<th>Earth</th>
<th>Primitive</th>
<th>Total Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorways</td>
<td>2 127</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2 127</td>
</tr>
<tr>
<td>State Highways</td>
<td>11 240</td>
<td>19 631</td>
<td>73</td>
<td>112</td>
<td>29</td>
<td>290</td>
<td>31 375</td>
</tr>
<tr>
<td>Provincial Roads</td>
<td>1 910</td>
<td>26 831</td>
<td>183</td>
<td>957</td>
<td>637</td>
<td>1 362</td>
<td>31 880</td>
</tr>
<tr>
<td>Total</td>
<td>15 277</td>
<td>46 462</td>
<td>256</td>
<td>1 069</td>
<td>666</td>
<td>1 652</td>
<td>65 382</td>
</tr>
</tbody>
</table>
### Total passenger and freight traffic by modes (2011)

<table>
<thead>
<tr>
<th>Mode</th>
<th>A (Tonne/km)</th>
<th>B (Passenger/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Road</strong></td>
<td>203,072,000,000</td>
<td>242,265,000,000</td>
</tr>
<tr>
<td><strong>Maritime</strong></td>
<td>8,617,000,000</td>
<td>848,000,000</td>
</tr>
<tr>
<td><strong>Railways</strong></td>
<td>11,677,000,000</td>
<td></td>
</tr>
</tbody>
</table>
Turkey’s National Climate Change Action Plan (NCAAP) on Transport Sector

* Promoting intermodal transport solutions
* Shifting towards modal balance
* Ensuring sustainable urban travel
* Increasing options for the use of alternative fuels & clean vehicle technologies
* Optimizing energy efficiency
* Improving ITS infrastructures.
Q.1: POLICY INITIATIVES & PROJECTS
(CONT'D)
Policy Strategies & Projects for Emission Reduction and Sustainable Transport

**Railways**

* Infrastructural and superstructural improvement,
* Introducing enhanced intermodal connections,
* Increasing the share of railways for passenger & freight transport,
* Raising service quality to change consumer behaviour.

**Maritime**

* Improving infrastructure,
* Fleet renewal and improvement,
* Intermodal integration and development of new hinterland connections,
* Encouraging maritime activities.
Q.1: POLICY INITIATIVES & PROJECTS (CONT’D)

Road Transport

* Preparation of an integrated «National Transport Master Plan» for increased modal balance
* Adoption of intermodal approach in highway planning,
* Exploration of new economic instruments to shift from road-intensive transport system,

Urban Travel

* Enhancing & increasing public transport services,
* Improving infrastructures for non-motorised and pedestrian travel,
* Administrative arrangements to reduce vehicle density in traffic (slow cities, no-car zones, etc.)
* Institutional reforms for sustainable urban transport and land-use,
* Awareness raising.
Q.1: POLICY INITIATIVES & PROJECTS (CONT’D)

High Speed Railways (HSR)
- Ankara-Istanbul HSR Project
- Ankara-Sivas HSR Project
- Ankara-Konya HSR Project

Bus Rapid Transit (BRT)
- Istanbul Metrobus: 50 km. BRT route

Mass Rapid Transit (MRT)
- Marmaray Project;
  “Uninterrupted, high capacity commuter rail system”

Non-Motorised Transport (NMT)
- “Bcycle Paths in 81 Cities” Project;
  Investment incentives for municipalities; 103 municipalities applied since 2012

Istanbul Pedestrianisation Project
Q.1: POLICY INITIATIVES & PROJECTS (CONT’D)

Low-Carbon Transport Projects

* “Sustainable Low-Carbon Transport” Project;
* GHG projections
* Mitigation action potential identification
* Preparation of “Sustainable Low-Carbon Transport Strategy”
* MoTMAC & UNDP

Public Transport Improvement

“First of a Kind” Project;
Mobile phone signals used to update daily mobility data,
Data is used to redefine public transport plans, destinations and peak times,
Granted “IT&Innovation” Award by UITP World Congress
Q.1: POLICY INITIATIVES & PROJECTS (CONT’D)

Pricing
* Low-toll fees for low-GHG emission vehicles at motorways and bridge tolls
* Deterrent pricing for long-duration parking at city centers

Car Use Control
* Evaluating possibilities for limiting automobile access at city centers,
* Strategy underway to introduce age limit for public transport vehicles
* Limitation of heavy-duty vehicles' entrance at city centers to assigned time slots

Tax Measures
* Ongoing studies and consultations among relevant Ministries to explore the mitigation potential of transport emission taxing
Promotion of New Technologies

* Tax legislations in place to promote the preference of alternative fuels and clean vehicles,

* Encouraging public and private agencies to create clean fuel fleets through incentives and other mechanisms,

* Offering free or cheap parking areas to clean vehicles in urban areas is explored
Administrative Structure for
Urban and Intercity Public Transport Operations

* Municipalities are the main responsible agency
* MoTMAC's role:
  - improving road transport;
  - ensuring free, fair and sustainable competitiveness in the sector;
  - determining minimum and maximum fees for highways, bridges, tunnels, bus terminal charges;
  - supervising their implementation;
  - evaluating demands of public institutions and local authorities to establish light rail systems, subways and urban railway transport systems;
  - submitting the appropriate projects for authorization of the Council of Ministers
**Q.2: TRANSPORT EMISSIONS DATA & SUSTAINABLE TRANSPORT INDICATORS**

* Vehicle population by classification

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Vehicle</th>
<th>Car</th>
<th>Heavy-Duty</th>
<th>Light-Duty</th>
<th>Minibus</th>
<th>Bus</th>
<th>Motorcycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>16,089,528</td>
<td>8,113,111</td>
<td>728,458</td>
<td>2,611,104</td>
<td>389,435</td>
<td>219,906</td>
<td>2,527,190</td>
</tr>
</tbody>
</table>
Q.2: TRANSPORT EMISSIONS DATA & SUSTAINABLE TRANSPORT INDICATORS

Vehicle and fuel taxes (rate)

* Fuel tax on Gasoline = 66.8%
* Fuel tax on Diesel Oil = 62.4%

Transport Infrastructure (road, railway) (km) & Number of Ports and Airports

Number of airports: 47
Number of ports: 174 ports and piers
Railways: 888 km/High Speed Line
11,120 km/Conventional Line
Total = 12,008 km
Q.3: CASE & BEST PRACTICES

* “Quantifying GHG emission reductions from Transport Mitigation Actions” Project,

* Project for the preparation of a Nationally Appropriate Mitigation Action (NAMA) proposal in the transport for UNFCCC NAMA Registry,

* Project for “Sustainable Low Carbon Transport”
Q.4 Other Activities

Capacity Building in the Field of Climate Change in Turkey

Timeline: 2015-2018