ForFITS UNECE-wide implementation
Status report
ForFITS background

- Developed under the framework of a United Nations Development Account (UNDA) project implemented from 2011 to 2013

- Projects transport activity, energy use and CO$_2$ emissions under different policy scenarios

- Currently applying model to UNECE region as follow-up to UNDA project
Provisional results from 40 member States
- 12 member States which returned questionnaires
- 4 additional member States which were subjects of previous ForFITS studies

- 78% of population and 93% of GDP (USD) for UNECE region in 2013
  - Biased towards member States with high data availability
  - Lack of data in remaining member States pose difficulties

Data gaps for all member States
- Vessel and aircraft data
- Average annual travel, load and fuel consumption
Provisional Results

- Projected well-to-wheel CO\textsubscript{2} emissions from inland transport to 2040
  - 100 % increase in freight
  - 10 % decrease in passenger

- Population growth < economic growth
- Fuel efficiency improvements
- Saturation of passenger car market in high-income countries
Provisional Results

- Projected total well-to-wheel CO₂ emissions per capita expected to increase
  - Both low and middle income countries approach levels of high income countries

- Low income = 2013 GDP per capita < 10 000 USD.
- Middle income = 2013 GDP per capita 10 000 - 25 000 USD.
- High income = 2013 GDP per capita > 25 000 USD.
- For comparison purposes only - not comparable to World Bank classifications
Possible Future Steps

- UNECE is currently evaluating results and considering next steps
  - Preliminary results presented as an informal document at 77th Session of Inland Transport Committee
  - Technical review of analysis forthcoming
  - Feasibility of projections for remaining member States
  - Feasibility of assessing the effects of different policy decisions on CO₂ emissions

- Questions? - ForFITS@unece.org
- More information on ForFITS: www.unece.org/trans/theme_forfits.html
Thank you for your attention
Today - What is the current annual level of transport CO₂ emissions in a country? Transport system characterized by inputs including:
- Vehicle stock, annual vehicle travel, average fuel consumption, average vehicle load, breakdown of powertrain types in current fleet

Tomorrow - How will the level of transport CO₂ emissions change in the next decades in a country? Adjustable inputs include:
- GDP and population growth
- Fuel taxation schemes
- Modal shift (eg shift to public transit)
- Usage of biofuels
- Technology improvements
### Backup - Acronyms and Definitions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>ForFITS</td>
<td>For Future Inland Transport Systems</td>
</tr>
<tr>
<td>PPP</td>
<td>Purchasing Power Parity</td>
</tr>
<tr>
<td>UNDA</td>
<td>United Nations Developed Agency</td>
</tr>
<tr>
<td>Well-to-wheel</td>
<td>CO$_2$ emissions both from vehicle operation and from production and distribution of fuel used for operation</td>
</tr>
</tbody>
</table>
## Backup - Member States analyzed

<table>
<thead>
<tr>
<th>Category</th>
<th>Count¹</th>
<th>Member States</th>
<th>Member States</th>
<th>Member States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low income</strong></td>
<td></td>
<td>Albania, Belarus, FYR Macedonia,</td>
<td>Armenia, Bosnia and Herzegovina,</td>
<td>Azerbaijan, Bulgaria*, Kyrgyzstan,</td>
</tr>
<tr>
<td></td>
<td>17 (6)</td>
<td>Montenegro, Serbia, Ukraine</td>
<td>Georgia, Rep. of Moldova, Tajikistan, Uzbekistan</td>
<td>Romania, Turkmenistan</td>
</tr>
<tr>
<td><strong>Middle income</strong></td>
<td></td>
<td>Croatia, Greece, Latvia, Poland,</td>
<td>Czech Republic, Hungary, Lithuania*, Portugal, Slovenia</td>
<td>Estonia, Kazakhstan, Malta, Russian Feder., Turkey</td>
</tr>
<tr>
<td></td>
<td>15 (13)</td>
<td>Slovakia*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High income</strong></td>
<td>24 (21)</td>
<td>Andorra, Canada*, Finland*, Iceland,</td>
<td>Austria*, Cyprus, France, Ireland*, Liechtenstein, Netherlands*, Spain, United Kingdom</td>
<td>Belgium*, Denmark, Germany, Israel, Luxembourg, Norway, Sweden, United States</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italy, Monaco, San Marino, Switzerland*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Figure in parenthesis shows count of countries in group for which initial ForFITS analysis has been performed
* Completed questionnaire submitted

Note: **Bold** = initial ForFITS analysis performed. GDP = Gross Domestic Product. USD = US dollars. Low income = 2013 GDP per capita < 10 000 USD. Middle income = 2013 GDP per capita 10 000 – 25 000 USD. High income = 2013 GDP per capita > 25 000 USD. FYR Macedonia = Former Yugoslav Republic of Macedonia