Evaluating CO₂ emissions in inland transport and climate change mitigation

The UNDA project on measurement and mitigation of transport sector emissions

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The UNDA project (1/2)

2008 Call for funds by the UNECE Transport Division on the UN Development Account (UNDA)

2009 Project endorsed by the UN General Assembly
Duration: 3 years (January 2011 – December 2013)
Leading agency: UN ECE (Economic Commission for Europe)
Implementing entities: ECA, ECLAC, ESCAP & ESCWA (other UN Regional Commissions)

2010 Project document
Major phases and activities of this three-year project defined

Main objective: enhanced cooperation & planning for sustainable transport
Main focus: capacity building
Target: policy makers and technical experts

Project leveraging on the development of a modelling tool (called ForFITS) meant to be freely available for all UN Member States) capable to assist users in the selection of the most appropriate and effective measures to reduce CO₂ emissions in the inland transport sector (including road, rail and inland waterways)
The UNDA project

2011  Project launched
Tasks and responsibilities of UNECE and other Regional Commissions defined in ToR
Development and distribution of a questionnaire to provide inputs for the preparation of a global status report, containing a review on existing statistical data, policy measures and assessment tools concerning CO₂ emissions in transport

2012  International Expert Meeting (IEM) (April) to disseminate information, share experiences, identify possible synergies with other stakeholders
Peer-review workshop to discuss the draft global status report and to give feedback on a draft methodology of the ForFITS tool (April)
Finalisation of the global status report (October)
Release of the prototype version of ForFITS (December)

2013  Release of the advanced prototype of ForFITS (2nd quarter)
Development of a user manual (also containing methodological information) (2nd and 3rd quarter)
Finalization of the ForFITS model (Summer)
Application in pilots, awareness-raising, capacity-building and training workshops (3rd and 4th quarter)
**ForFITS Model requirements**

**Key requirements**

- Allow the estimation/assessment of emissions in transport
- Allow the evaluation of transport policies for CO$_2$ emission mitigation
- Convert information on transport activity into fuel consumption and CO$_2$ emission estimates considering the influence of the demographic and socio-economic context, including policy inputs

- Be developed as a software tool
- Be freely available for users (e.g. national and local governments, general public)
- Be developed between 2011 and 2013

**Sectoral model (focused on inland transport only):** we do not expect it to target the evaluation of overall effects on the economic growth
ForFITS model Coverage

- Passenger and freight transport services
- Two different areas (e.g. to define the transport systems: urban, non-urban, non-spec.)
- Nine transport modes: non-motorized transport, two wheelers, three wheelers, light road vehicles, medium and heavy road vehicles, rail, navigation (inland, short-sea and deep-sea/martime), air and pipelines
- Different vehicle subsets within each mode (organized in six vehicle classes – A to F) (figures)

- 31 powertrain technologies (e.g. internal combustion engines, hydraulic hybrids, electric hybrids, plug-ins, fuel cell, electric)
- 10 fuel blends, some of which are associated with specific modes and/or powertrains
A wide set of default data are included in the ForFITS Excel file

These default data are used to characterizing several parameters of the ForFITS model

They concern the following input categories:

M Data absolutely required
   Corresponding to the minimum data requirements

A Inputs expected to be introduced by the user
   The default value in ForFITS is for guidance only
   This category includes policy inputs that allow exploring different scenarios

B Input containing technical information (e.g. technological potential and costs by powertrain)
   These data may be maintained unchanged
   The defaults are set on the basis of research activities involving literature reviews and statistical analyses
   (further information on this is provided in the relevant section of the ForFITS manual)

C Inputs on structural characteristics of the model
   Unless the users acquired significant experience with the model, these inputs shall not be modified: changes to these inputs will result in significant modifications to the model behaviour
ForFITS users

Who may be interested in using ForFITS?

• Someone willing to understand the transport system he is concerned about (typically a geographical region), its impacts in terms of energy consumption and CO₂ emissions
• Someone having access to a sufficient amount of statistical information
• Someone having some degree of specific competence (transport, transport policies, energy policies, environmental policies)
• Someone having sufficient financial means to support his/her ambitions
• Someone from...
  • a national administration and/or a local government
  • an Inter-Governmental Organization
  • a Non-Governmental Organization
  • an Academic institution and/or a consulting company
  • the industry sector (company/corporation, industry association)
Beyond the project

ForFITS was conceived with the primary objective to evaluate contextually transport activity, energy consumption and CO₂ emissions

• Local, national, international applications possible
• Flexible with respect to data needs

The application of ForFITS can leverage on existing information, increasing the value already generated by their collection

ForFITS has the potential to become an important asset for the UN and its Member Countries

The UNECE Transport Division seeking stakeholders interested in the establishment solutions providing opportunities to maintain and further develop the model
Links and contact information

Links

Project web page
http://www.unece.org/trans/theme_forfits.html

User manual, including methodological information
http://www.unece.org/trans/forfits_user_manual.html

Contact information
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