

***Monitoring and assessment of CO<sub>2</sub> emissions in inland transport to facilitate climate change mitigation***  
***The UNECE ForFITS model***

Sixty-fifth session of the Working Party on Transport Statistics (WP.6), 18-20 June 2014

Evaluating CO<sub>2</sub> emissions in inland transport and climate change mitigation

## ForFITS

A monitoring and assessment tool "For Future Inland Transport Systems"

Data collection status report

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- 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

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 CO<sub>2</sub> emissions in the inland transport sector (including road, rail and inland waterways)

## 2011 Project launched

**Global Status Report** on transport statistics, policies being implemented and existing tools

## 2012 **International Expert Meeting (IEM)** (April) to disseminate information, share experiences, identify possible synergies with other stakeholders

Definition of the **methodology** and implementation

Release of the **prototype version of ForFITS** (December)

## 2013 **Finalization of the ForFITS model** including a **user manual** (Summer)

**Application in pilots, awareness-raising, capacity-building and training workshops** (second half)

# Characteristics of the ForFITS model

- **Coverage:** 2 areas, 9 transport modes, 6 vehicle classes, 31 powertrains, 10 fuel blends
- **Local/National/International** levels
- **Two components**

Vensim Packaged Model (.vpm file)  
Excel interface (.xls file)

- **Inputs:** Information at the base year and definition of scenarios/policy interventions
- **Outputs:** Projections on transport activity, energy use and WTW CO<sub>2</sub> emissions in a certain time span
- Evaluation of a **large number of policies** under the Avoid-Shift-Improve-Approach
- **Freely available online**

# PILOTS AND WORKSHOPS

## Seven pilot countries belonging to the different UN Regions:

- Chile, Ethiopia, France, Hungary, Montenegro, Thailand and Tunisia
- Validation of ForFITS
- Post-workshop survey of participants showed great satisfaction and further interest in using the model in practice.

## Regional raising awareness events and capacity building workshops organized by each UN Regional Commission:

<i>Date</i>	<i>Location</i>	<i>Awareness-raising event</i>	<i>Capacity- building/technical workshop</i>	<i>Corresponding United Nations Regional Commission</i>
5–28 August 2013	Santiago	●	●	Latin America and the Caribbean
13 September 2013	Geneva	●		Europe
23–24 September 2013	Bangkok		●	East Asia and Pacific
26–27 September 2013	Bangkok	●		East Asia and Pacific
8–10 October 2013	Geneva		●	Europe
31 October 2013	Addis Ababa	●		Africa
1–2 November 2013	Addis Ababa		●	Africa
19–20 November 2013	Pogdorica		●	Europe
2–3 December 2013	Hammamet, Tunisia	●		West Asia
4–5 December 2013	Hammamet, Tunisia		●	West Asia

# Beyond the project

The ForFITS project was concluded, **ForFITS development continues**

- **Provide assistance** to the ForFITS users
- Increase the number of **pilots** (Lyon, São Paulo)
- Ensure regular **up-dates**
- **Further development** of ForFITS:
  - Inclusion of **Non-Road Mobile Machinery**
  - Extension to other **greenhouse gases** and to **local pollutants**
  - Infrastructure module** (interaction between transport networks and vehicle use)
  - Road Safety** (e.g. fatalities, injuries and effect of road-safety policies)
- **ForFITS data collection and research**

Are ForFITS input data widely available??

- Initial work began in April 2014 to assemble ForFITS data for UNECE Member States
- Goal: to collect sufficient data by December 2014 to project future emissions from the transport sector for all UNECE Member States

Input table is small, but breakdown required

- **9 transport modes, 6 vehicle classes, 7 powertrain groups, freight and passenger vehicles**
- **Over 100 inputs required per country**
- Much data available in principle from Common Questionnaire, much less available in practice
- To date, there is a wide range of data completeness by country, but significant gaps for ALL

ForFITS Inputs	Common Questionnaire <b>No questions for maritime vessels or aircraft</b>	Year
Vehicle Stock	Number at 31.12 (Unit)	Base year
New registrations	New _____ registered during the year > Number at 31.12 (Unit) <b>(Road only)</b>	Base year, t-5, t-10
Powertrain shares	By type of motor energy > Number at 31.12 (1000) <b>(Road)</b> Number at 31.12 > By source of power <b>(Rail)</b>	Base year – Vehicle Stock
	New _____ registered during the year > By type of motor energy > Number at 31.12 (1000) <b>(Road only)</b>	Base year, t-5, t-10 – New registrations
Annual travel per vehicle	<i>Can be derived from</i> Vehicle-km (Mio) <i>and</i> Number at 31.12 (Unit) <b>(Road)</b> <i>Can be derived from</i> Train-km [IV-07] (1000) <i>and</i> Number at 31.12 (Unit) <b>(Rail)</b>	Base year
Vehicle Load	<i>Can be derived from</i> Vehicle-km (Mio) <i>and</i> Passenger-km (Mio) <i>or</i> Tonnes-km (Mio) <b>(Road)</b> <i>Can be derived from</i> Train-km [IV-07] (1000) <i>and</i> Number of passenger-km [V-08] (Millions) <i>or</i> Tonnes-km (Millions) [V-19] <b>(Rail)</b>	Base year
Vehicle fuel consumption	N/A	Base year – Vehicle Stock  Base year, t-5, t-10 – New registrations
Population & GDP (PPP)	Available in other international databases (including UNECE)	Base year
Fuel cost & fuel tax	N/A	Base year

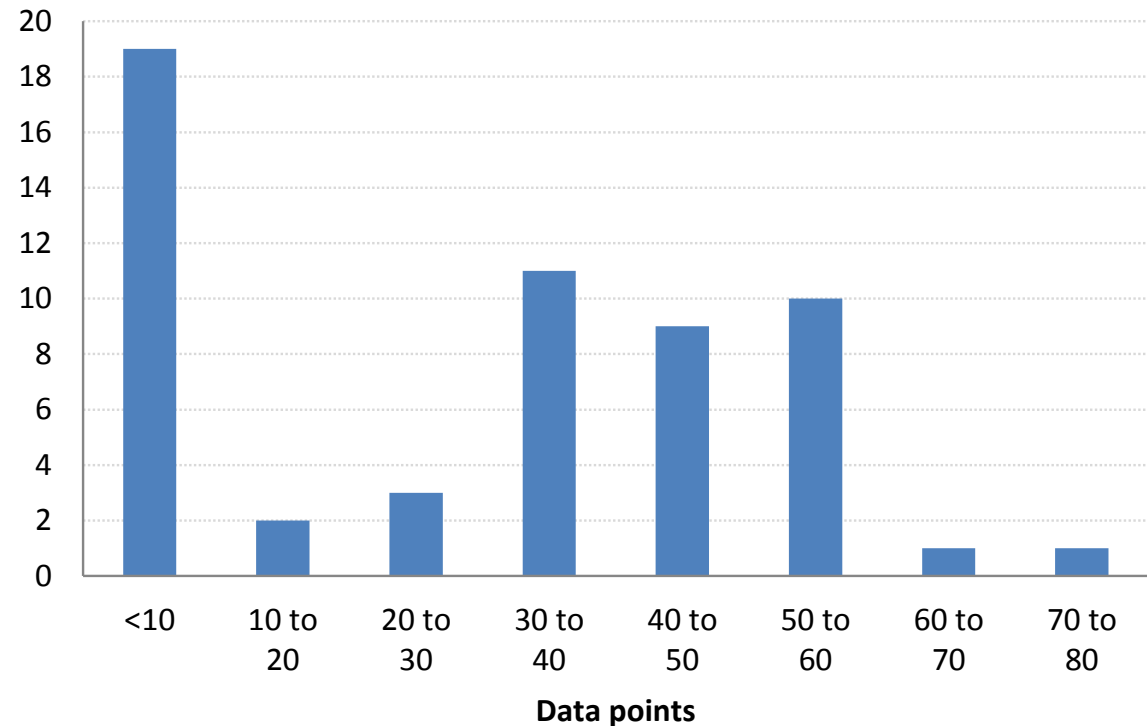


# ForFITS Data Collection Status

Database continues to be updated

- Many countries lack any transportation data (only socio-economic data available)
- Slow progress searching national statistical websites
- Even countries with developed statistical systems are missing many variables – possibly more data available in national databases

# of Member States



# Next steps

## Missing data

- Still a need for data to fill gaps in all countries
- Preference is to avoid estimation of data where possible
- Help in filling data gaps from WP.6 would be welcome
- ForFITS input tables are available on the ForFITS website

# Links and contact information

## Links

Model download/UNDA project page

[http://www.unece.org/trans/theme\\_forfits.html](http://www.unece.org/trans/theme_forfits.html)

User manual, including methodological information

[http://www.unece.org/trans/forfits\\_user\\_manual.html](http://www.unece.org/trans/forfits_user_manual.html)

## Contact information

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