

REDUCING GREENHOUSE-GAS EMISSIONS OF TRANSPORT BEYOND 2020: LINKING R&D, TRANSPORT POLICIES AND REDUCTION TARGETS (GHG-TRANSPORD)

CLIENT: *European Commission – DG Research*

YEARS: *2009 – ongoing*

DESCRIPTION OF ACTIVITIES

In early 2007 the European leaders defined a target to reduce greenhouse gases by at least -20% until 2020, or -30% if an international agreement is achieved, compared with the emission levels of 1990. Until 2050 the reductions of the EU emissions should reach -60 to -80%. Transport currently contributes about 27% of the total EU greenhouse gas (GHG) emissions. The reduction targets do not assign a specific reduction target for the transport sector, however, it is obvious that in the future the transport sector will have to contribute to GHG emission reductions. Thus, reduction targets for the different transport modes have to be anticipated and aligned research strategies and transport policies have to be developed to efficiently and effectively meet these reduction targets for the medium to long-term.

Objectives

The main objective of GHG-TransPoRD project is to support the EU in defining a feasible research and policy strategy for GHG reductions of transport that fits and contributes to the overall GHG reduction targets of the EU. Such a policy strategy would propose GHG reduction targets for transport as a whole as well as for each transport mode.

More specific goals are the following:

- Identification of promising and feasible measures (i.e. technology pathways and policies) that reduce GHG emissions of transport (as a whole and by mode).
- Techno-economic analysis of details of promising measures to estimate effectiveness of GHG reductions as well as technical feasibility and economic cost and affordability.
- Formulation of scenarios consisting of both selected technology pathways and transport policies that would achieve GHG reduction targets for 2020 (-20/30%) and 2050 (-60 to -80%).
- Communicate with stakeholders about project findings and most recent advancements in particular of new technologies to have a platform of mutual understanding.

Methodology

GHG-TransPoRD will follow a backcasting approach to develop an integrated R&D strategy for cli-

mate&transport in the EU. The backcasting approach starts from two ends:

- (1) the existing European R&D strategy and the existing innovations system of the transport sectors;
- (2) the policy projects already on the table coming from different sources i.e. policy decisions and policy documents (e.g. from the European Commission), European technology platforms of the business and research communities as well as past and ongoing European research projects.

In the next step the maximum GHG savings potential of the measures (i.e. policies and technologies) is quantified. Together with a consideration of institutional feasibility and conformity with and support by the current R&D strategy, a list of measures is then selected for further analysis. In the third step detailed parameters of the measures, in particular of new technologies, are elaborated. This concerns techno-economic characteristics, in particular technology specifications, costs and learning curves.

Finally, together with high level scenarios and policy packages the list of measures and parameters defined so far will provide the input for the integrated assessment that will generate techno-economic results that can feed into the R&D policy development process. The techno-economic analysis will make use of different modelling tools: three global/European models (POLES, ASTRA and REMOVE) and one regional model (MARS).

Role of TRT

In GHG-TransPorRD, TRT is responsible for the techno-economic analysis, i.e. for the application of the various modelling tools in a consistent framework to provide quantitative estimations of impacts of measures for a wide range of variables ranging from economic growth at the country level to local emissions levels in the regional study area.

The Consortium

The Consortium of GHG-TransPorRD is led by Fraunhofer-ISI (Germany). Other partners, beyond TRT, are the JRC-IPTS of the European Commission (located in Sevilla, Spain), TML (Belgium) and the ITS of University of Leeds (UK).

