

TRANSPORT PANEL REPORT

Rovaniemi, 2005-10-20

1. New Methodological Elements for Guidebook/Copert 4

The new methodological elements of Copert 4 were presented at their current status of development. These include:

- Hot emission factors of regulated pollutants from conventional PCs and PTWs
- Hybrid vehicle fuel consumption and emission factors
- N₂O/NH₃ Emission Factors for PCs and LDVs
- Particulate matter and airborne particle emission factors
- Non-exhaust particle emissions (tyre, break and road wear)
- New corrections for emission degradation due to mileage
- Heavy duty vehicle methodology (emission factors, load factor corrections and road gradient reductions)
- Developments on the cold-start emission front
- Developments on evaporation losses incl. PTWs

The information presented in the Expert Panel was derived from different sources. In particular from the 5FP Artemis/Particulates projects, JRC/CONCAWE sponsored activities on evaporation and specific studies by Aristotle University (related to N₂O and hybrids). Most of the methodologies presented are complete for introduction in the Guidebook and in Copert4, except of cold start and evaporation losses which are still in their development phase within corresponding research projects (particularly affected by the delay in the Artemis project deliverables). Therefore, it is not possible to commit on the timing of finalizing the methodologies and incorporate them in the Guidebook. The study team will try to meet the September deadline for inclusion of the methodology in the next Guidebook update but this will also depend in the developments of projects currently running.

With respect to the differences of hot emission factors proposed for Copert 4, in comparison to Copert 3, little difference is expected for Euro 1 and Euro 2 technologies, except for NO_x from Euro 2 Heavy Duty Vehicles because cycle bypassing by these vehicles is now taken into account. Euro 3 and 4 technologies will see most of the difference because Copert 3 emission factors were based on mere reductions over Euro 1, while emission factors are now based on experimental data.

It was discussed that hybrid vehicles will receive more attention in the future as more vehicle manufacturers prepare a number of hybrid options. These vehicles, although in principle comply with their corresponding type-approval emission standard, offer superior performance in fuel consumption, GHG emissions and regulated pollutants. A particular record is foreseen in Copert 4 to take them into account.

N₂O emission factors were also prepared for passenger cars and light duty vehicles but no information was available for heavy duty vehicles and power two wheelers. The new emission factors take into account the vehicle technology and fuel used, as

well as sulphur content in the fuel, vehicle age (mileage) and they are specific to cold urban, hot urban, rural and highway.

Airborne particle emission factors, include particle size and number concentration, distinguished between total and solid particle number in three size classes (<50 nm, 50-100 nm, 100 nm-1 µm. These complement the “conventional” PM mass information and surface concentration values.

Non exhaust emissions are going to be calculated according to the Guidebook methodology, SNAP 070700-070800.

2. “Beta” version of the software

In parallel to the methodological developments, the software of Copert 4 is being developed and was presented at its current version (“beta” version) to the expert panel. The new software is based on .NET platform to increase performance and guarantee compatibility with different MS Windows versions and languages.

Compared to Copert 3, the new software will be able to handle data from several years of calculations in one file to facilitate time-series comparison. The vehicle fleet structure included will be also possible to change and formulate the software to better match in different fleets at different countries. It will also include wizards which will guarantee the introduction of all necessary information in the software. A final major point is that it will be possible to keep data in MS Excel files, that users are more familiar with, and exchange information between Excel and Copert 4. The “beta” version is available for evaluation by any interest parties but is not yet in the position to replace Copert 3.

3. Off-road directives and proposals for work

The expert panel identified that additional information on emission factors for off-road machinery could be available from the EGTEI database or could be derived from the new European legislation that came into force in 2002-2004. The expert panel proposed to examine this information, compare it with information reported in the Guidebook and identify possible updates. The participants to the panel were invited to contribute to this work and inform the chair by e-mail of their possible contribution.

4. Traffic counts request to increase spatial/temporal resolution

The participants of the panel were informed of a request by Univ of Stuttgart (S. Reis) to supply sources with information on traffic counts on different roads of countries. This information will be required for spatial allocation of emission data. The participants were advised to get back directly to S. Reis with any information they consider relevant.

5. Ideas on road transport reviewing processes

The expert panel quickly discussed how to contribute to the review process for the road transport sector. Activities planned during the last years have not been realized due to lack of resources. Analysis of time series from different countries might not be

useful in reviewing inventories because of significant differences in the composition of national vehicle fleets and the variance in renewal rates. The panel considered identifying a brief list of variables used in the Guidebook methodology to estimate emissions (e.g. average speed at urban, rural and highway level, mileages etc...) and ask the national experts to supply these data by e-mail to the chair. These will then be evaluated in a quantitative and qualitative way to identify inconsistencies and outliers. This process will be initiated by the chair, by sending an initial proposal of relevant parameters for consideration by the group.