

*EIONET Workshop on Emission Inventories & Projections
16-17th May 2000, Rome*

COPERT III

Recent past, today and the way ahead

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COPERT III Development

- **May 99:** V0.5 distributed to ETC members. Still MS Access application, included no off-road module or methodology updates. It was designed to evaluate the software and results were identical to COPERT II.
 - **June 99:** Main methodology revisions discussed in EIONET Roskilde meeting with MEET invited partners and other experts.
 - **July 99:** V1.0 launched in the Web, including the off road module and the new methodology elements. Purpose: to evaluate both software and methodology. Only draft methodology report, no user manual.
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- **Initial Target** ➡ **Fall 99:** Finalisation of COPERT III, final report and manual and update of the relevant EIG chapter.
 - **Extension 1** ➡ **Spring 2000:** To update the cold start and evaporation modelling



Which are COPERT III main input sources

- 🕒 **COST319/MEET projects (4FP, Apr. 96 - Mar. 99)**
hot emission factors, cold start effects, emission degradation with mileage
- 🕒 **Industry - ACEA (Jan. 98 - March 99)**
In the framework of Auto Oil 2 Programme
future technologies emission factors, cold start effects, fuel effects
- 🕒 **European contract DGVII, DGXI, DGXVII (Aug.94 -Apr.98)**
Inspection and maintenance effects
- 🕒 **Internal LAT/AUTh surveys (Sep.98 - May 99)**
non regulated pollutants, NMVOC speciation
- 🕒 **Revisions of existing work (Sept. 99 - April 00)**
Cold start modelling (INRETS) - Evaporation (CONCAWE)



Which are the main COPERT applications?

- **National obligations:** Reporting of road transport related emissions for official national inventories.
- **Air quality models:** Provide estimates of emissions for local and regional air quality modelling.
- **Scenarios:** Evaluate the impact of technology and transport related measures on emissions.
- **Projections:** Estimate the evolution of road transport related emissions in future years.
- **Academic use:** Teaching, information for theses, applied research.



What is the profile of COPERT users?

- **As of May 9, 2000:** **507** Downloads of COPERT II,
146 Downloads of COPERT III
(some overlap)
- **Origin:** Mostly Europe (Italy holding the flag), but also America (**6%**), Asia (**3%**), Africa and Australia (**2%**)
- **Field:** Public sector (National, regional organisations - **28%**), Private sector (Consultants, Environmental researchers, etc - **32%**), Academia (**35%**), Automotive and fuel manufacturers (**~5%**)



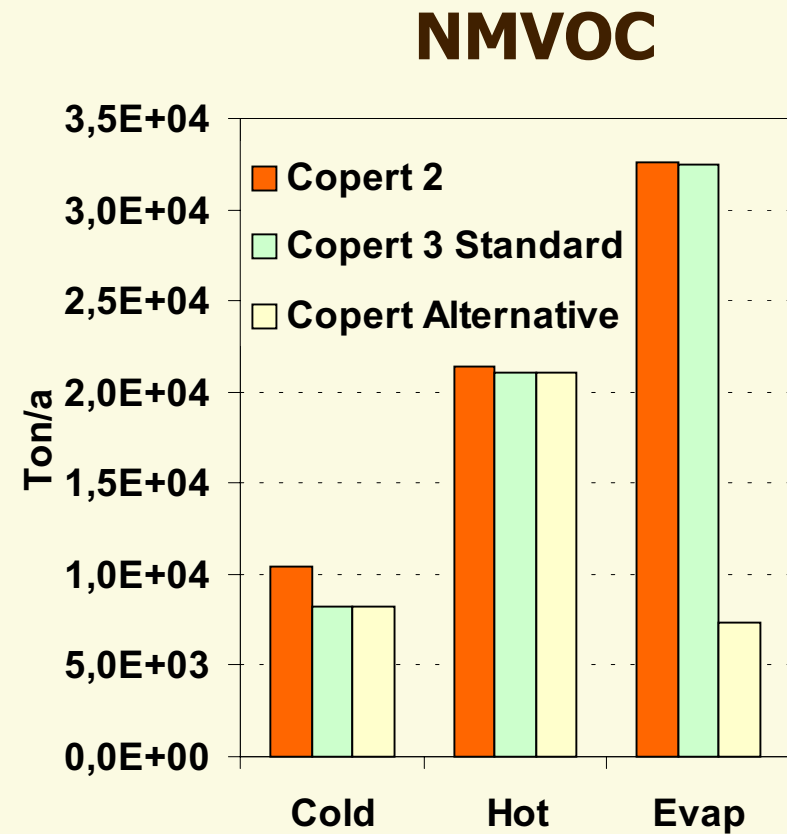
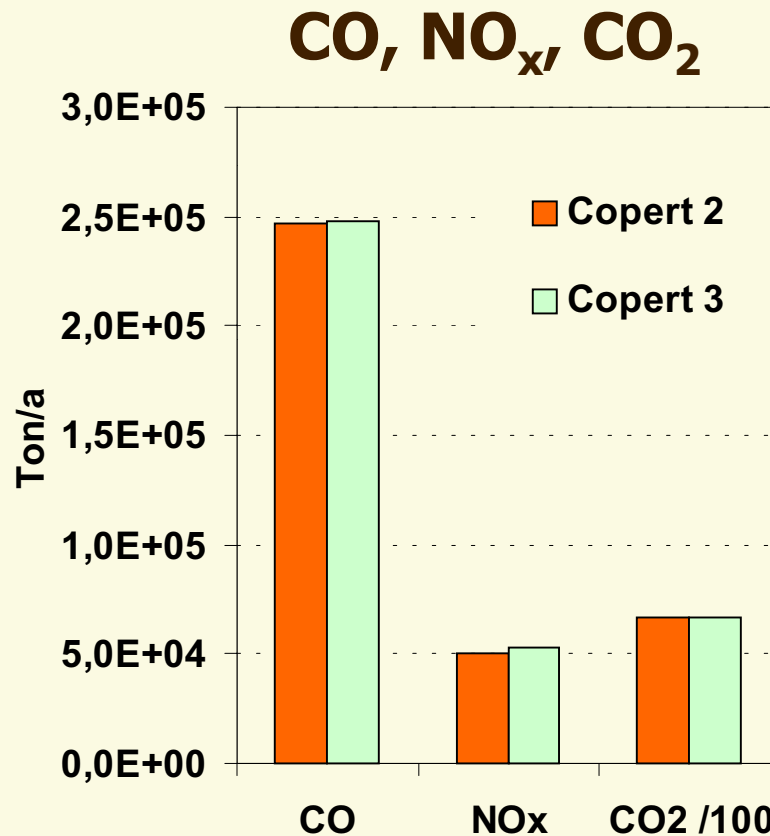
Which are the evaluation main conclusions?

- National experts, with few exemptions, not willing to provide any comments. This hinders COPERT improvement. Silence implies programme is satisfactory(?).
- COPERT use in Auto Oil 2 has attracted wide interest of the technical & scientific community.
- COPERT applications have been extended much beyond its initial design has planned for.
- COPERT methodology constitutes a merging of results obtained in several projects and it is not the outcome of a dedicated research project. Worries have been expressed on its integrity.
- Availability of European experimental data fail to estimate the confidence levels of COPERT III advanced characteristics.



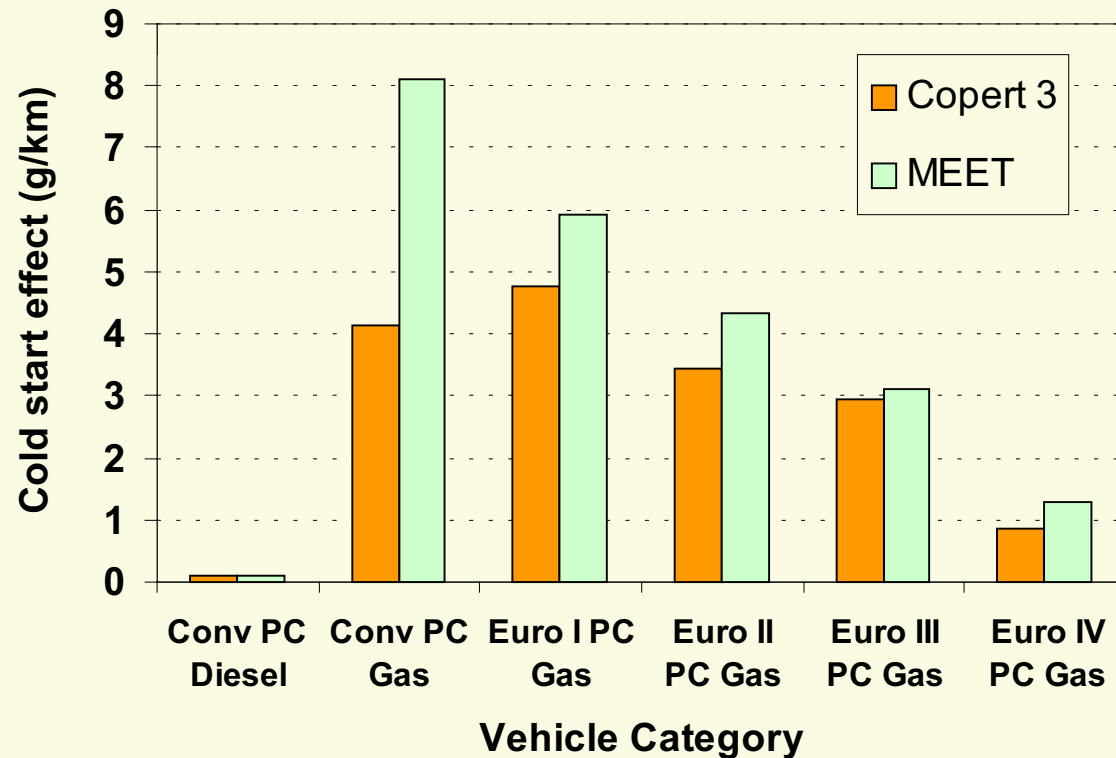
Which is the impact of methodology update?

Example: Ireland 1996



Which is the impact of data sources merging?

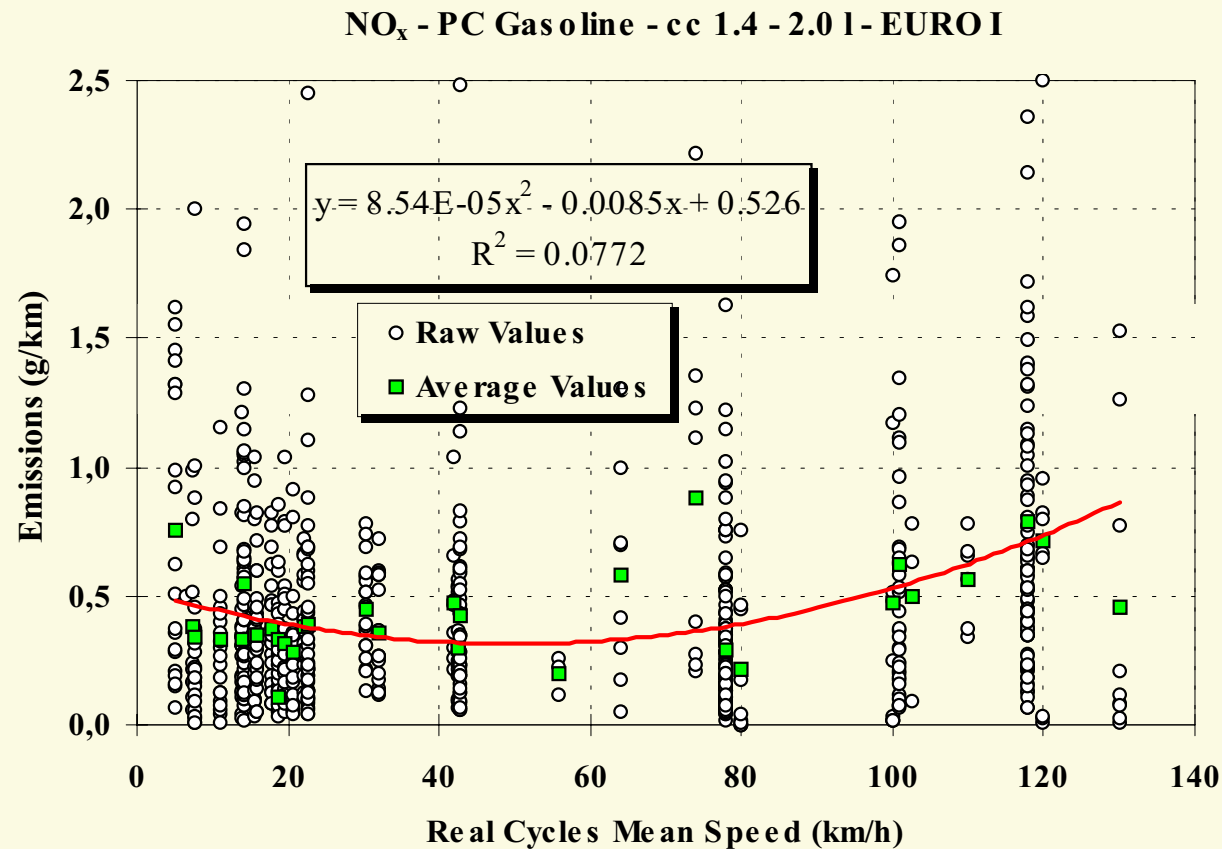
Remark: CO Cold start extra emissions?, which country etc...



Remark: Vehicle manufacturers consider that both estimates overstate actual emissions



What is the uncertainty of the emission factors estimates?



What needs and will be done?

- **Short-term future:** Consensus needs to be reached within the technical community. A final COPERT Workshop still needs to be organised. COPERT fields of application and requirements (?) need to be clarified.
- **Long-term future:** Harmonisation of transport emissions and emission models in Europe has to be achieved. **ARTEMIS** (Assessment and Reliability of Transport Emission Models and Inventory Systems) and **PARTICULATES** (Characterisation of Exhaust Particulate Emissions from road vehicles) have been setup in this direction. Output is not expected earlier than 3 years from now.



What are the implications to COPERT III finalisation?

- COPERT III still cannot become an official version for national estimates, even if they are insensitive to methodology trimming.
- Evaluation needs to be extended until Fall 2000
- COPERT II and COPERT III need to be used in parallel even by the national experts and any requests NEED to be communicated. It is a 2 min job to perform a CIII calculation once data have been introduced in CII (reverse not possible...).



What is today available?

➤ **COPERT II V1.1** (since Nov. 97) - Still **Official** version

➤ **COPERT III V2.0** (since May 2000) - 2nd Evaluation

➤ Available at:

<http://vergina.eng.auth.gr/mech/lat/copert/copert.htm>

