European Union aviation emissions
TFEIP 2014 meeting: transport panel

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**Aim of the project**

*Aim*

The evaluation of GHG and AP inventory information from MS UNFCCC and LRTAP inventories and to provide EUROCONTROL data on fuel consumption and emissions and thus supporting countries in the QA/QC processes in preparation of their annual GHG and AP emission inventories.

*Method*

Each year, under contract with the European Commission’s Directorate-General for Climate Action, EUROCONTROL calculates the mass of fuel burnt and the masses of certain gaseous and particulate emissions produced annually by civil aviation flights starting from and/or finishing at airports in the Member States of the European Union (EU) using a TIER 3 method. This work is done in support of both the European Environment Agency (EEA) and the Member States of the EU.
The calculation used in the **EUROCONTROL Method** is a mix of a Tier 3A and Tier 3B calculation. For the LTO cycle, a Tier 3A calculation is performed; average fuel consumption and emission data are assumed for each combination of aircraft type and type of engine. For the CCD phase, a Tier 3B calculation is performed in which the masses of fuel burnt and pollutants emitted are calculated on a flight segment by flight segment basis.
The flight segments
Air pollutants and greenhouse gases calculated

AEM calculates the mass of fuel burnt and the corresponding masses of the following species emitted (with greenhouse gases, both direct and indirect, being listed in green, VOCs in blue, organic gases in red, and PM components in black):

- NOX,
- SOX,
- carbon monoxide,
- carbon dioxide,
- water vapour,
- total hydrocarbons (HCs),
- benzene,
- 1,3-butadiene,
- ethylbenzene,
- formaldehyde,
- propionaldehyde,
- toluene,
- xylene,
- acetaldehyde,
- acrolein,
- POM16PAH,
- POM7PAH,
- styrene,
- total PM,
- non-volatile PM,
- volatile PM,
- sulphurous PM,
- PM less than 2.5 µm in diameter, and
- PM less than 0.1 µm in diameter
Next steps

EUROCONTROL is calculating 2005-2013 data (LRTAP and UNFCCC format)

ETC/ACM and EEA will be checking this data

2005-2013 data will be made available in Q3 (2014) to MS

The aim is to have an annual update of fuel and emissions data by MS as input into inventory compilation (not just qa/qc once the inventory has been compiled)