JRC plans for Transport Methodologies

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The JRC TAQU Past Work in the TFEIP

- Previously engaged in the Combustion and Industry Panel as co-leader
- Organised thematic workshop (HM&POPs, Small Sources, PM) and training workshops (EU candidate countries, on uncertainties, QA/QC, COPERT 4)
- Wrote one chapter on small combustion installations (B216)
- Organised the TFEIP Winter meeting in Pallanza, Italy in October 2004
The JRC TAQU Work in the TFEIP

- Although Combustion and Industry is still very important, our Unit shifted the focus to transport

- JRC is already contributing since a couple of years with experimental work, supporting the definition of new methodology for evaporative emissions and motorcycle EF

- Continuous experimental programme in 7 labs, which can be used to produce work for the Transport Emission Inventories

- Working closely with JRC/IPTS who is now developing the TRANSTOOLS and TREMOVE

Main Activities of the JRC Transport Lab (VELA)

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<tr>
<th>VELA 1 &amp; 2</th>
<th>Inside EU</th>
<th>Outside EU</th>
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| Passenger cars and Light Duty Vehicles | • EURO 5  
  • New limit values  
  • PMP programme  
  • Beyond EURO 5  
  • New test cycle  
  • Off-cycle emissions  
  • PEMS programme | • PMP Programme (coordination with UK) |

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<tr>
<th>VELA 3</th>
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| Motorcycles | • EURO 3  
  • New limits  
  • Beyond EURO 3  
  • Emissions from mopeds (collaboration with CH) | • WMTC – New Worldwide Test Cycle |

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<th>VELA 4, 5, 6 &amp; 7</th>
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| Heavy Duty Vehicles (On/Off-road) | • EURO VI  
  • PMP programme  
  • PEMS programme  
  • NRMM Directive Review (Dir.2004/26/EC) | • NRMM GTR  
  • New test cycle  
  • PMP Programme (coordination with UK) |

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| | • Fuel Directive Review  
  • Biofuels  
  • Evaporative emissions  
  • Metallic additives  
  • Alternative fuels  
  • Well to Wheels analysis  
  • European H2/FC platform | • H2 Fuel Cell GTR |
Working together with the TFEIP Panel

- JRC is now actively involved in the works of the Transport Expert Panel
- An experts workshop in JRC on 19th November 2007 to prioritise and pool resources together
- A list of themes which need further development was already put together with the Panel Leaders

Needs of Transport Emission Inventories

Road Transport

- Cold-start for recent and future technologies (EURO-4 and later)
- Temperature, humidity and altitude dependence of emission factors
- Effect of biofuels (evaporation and exhaust)
- Detail in classification of passenger cars for CO2 calculations
- Uncertainty Estimates
- NMVOC speciation
- Validation of EF with on-road measurements
- LPG/CNG measurements
- Hybrids
- Emission degradation (in-use vehicle performance)
- PM speciation
- Integration of existing models/approaches
Needs of Transport Emission Inventories

Air Traffic
- A new methodology in the EU 5FP ARTEMIS project and the results could be used to update the relevant Guidebook chapter (B851). The aircraft specific emission factors should be updated based on information from this project. Emphasis should be given to NOx.

Railways and Inland waterways
- A new methodology has been developed with the EU 5FP ARTEMIS project that could be used to update the relevant chapters (B810).

Off-road machinery in other sectors
- New emission factors required for new machinery technologies.

Ocean shipping
- Emission factors need update based on recent studies.

Working together with the TFEIP Panel
- Some work already going on in JRC, like validation of COPERT emission factors with the use of real-life measurements
- Other work planned by JRC for the near future, like LPG, CNG Emission Factors, Off-road machinery, Other modes of transport (through IPTS work)