Transport Expert Panel

Summary Report
Sofia, 2018-04-27

Agenda

14:00	**Welcome and progress since last year**	**Chairs**
	Q&A on Aviation Chapter	**Robin Deransy (Eurocontrol) - remotely**
	New developments and opportunities for shipping emissions inventorying	**Jukka-Pekka Jalkanen (FMI)**
	UK Shipping emissions inventory	**Anne Misra (Ricardo)**
	Coffee break	
	Nordic programme on developing air pollutant emission inventories, sVOC and marine BC	**Paivi Aakko-Saksa (VTT)**
	Recent emission factor and regulatory developments for GHG and air pollutant emissions in road transport	**Giorgos Fontaras (JRC)** **Victor Valverde-Morales (JRC)**
	Feedback from the training on Emissions distribution methodology and introduction to EDGAR WEB-based gridding tool	**Marilena Muntean (JRC)**
	COPERT 5 experiences and issues	**Antonella Bernetti (ISPRA)**
	New developments on road transport chapter	**Leon Ntziachristos (ETC)**
	2018-2019 workplan	**Chairs/all**
17:30	**Meeting end**	

Progress since last year

Item	Key Parties
Secondary PM formation understanding [FUNDING?]	ETC, FR (CITEPA, INERIS)
Further review of new Guidebook chapters (aviation, road, NRMM)	All parties
Further revisions of the Road transport methodology (L-vehicles, evaporation, …)	ETC, ERMES
Testing gridding road transport data with EDGAR tool	ETC, JRC
Continue monitoring diesel NOx situation	ETC, ERMES
FC real world consumption factors improvement	ETC, JRC, ERMES

Aviation

- New chapter up and running
- No new methodological changes over 2017
- Parties generally happy
- Missing aircraft types?
- Emissions per airport for earlier years?
- **fuelandemissionsinventory @eurocontrol.int**

Shipping

- Activities of ESSF (EC, MSs, RES, OEM, NGO, Owners,…)
  - Emission factors
  - Ship emission modeling
  - Primary/Secondary PM, especially BC
  - Impact of emission abatement

  Requirements go beyond Tier 3 inventory preparation approach;
  Activity data affects EFs

- Challenging times for emission factors
  - Dependent on activity (load)
  - New fuels (LNG, Bio, MDOs, …)
  - New pollutants (PM, PN, BC, …)
  - New emission abatement (SCR, Scrubbers)
  - BC/SOx trade-offs
  - sVOC and SOA

UK Shipping emissions inventory based on AIS

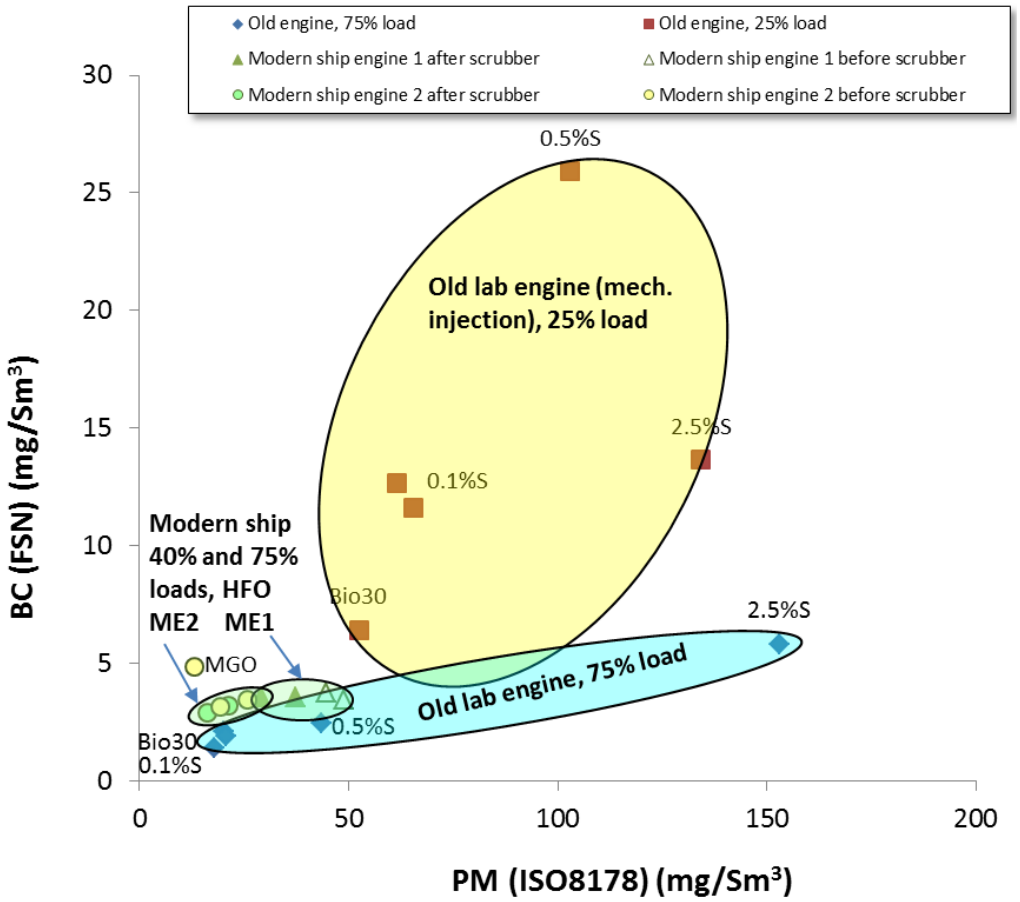
- More complete activity dataset for vessels on domestic voyages, including vessel categories not previously covered
- Improved engine emission calculation, and accounts for source not previously covered

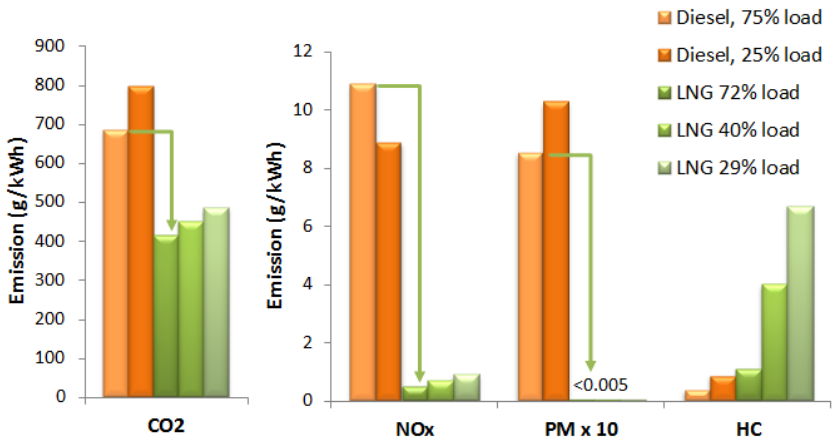
- Increased domestic emissions compared to existing NAEI
- Model estimates compare well to leading academics' European shipping inventories
- Low uncertainty emission calculation for most large vessels (85% of total emissions)
- More robust spatial allocation of inventory

- Results are sensitive to the approach taken to define domestic/international
  - High uncertainty in dom./int. allocation when vessels go out of AIS range

https://uk-air.defra.gov.uk/library/reports?**report**_id=950
http://cdr.eionet.europa.eu/gb/eu/nec_revised/iir/envwqfzqa/**GB_IIR_2018**_v1.2.pdf

Shipping emissions





LNG data: Anderson et al. 2015; diesel data: VTT (PM ISO8178, 2.5%S fuel).

LNG ship – Methane slip needs to be controlled as it is a strong climate forcer

CO_2 and NO_x from road transport

Secure | https://www.adac.de/der-adac/rechtsberatung/fahrzeugkauf-und-verkauf/abgasskandal-dieselthematik/test-euro-6-temp/

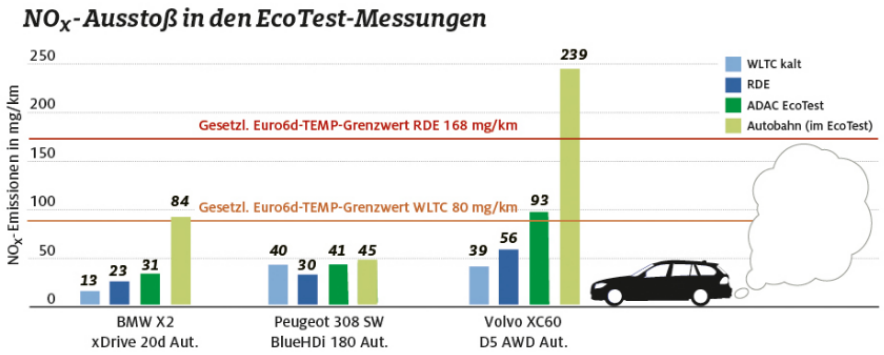
ADAC

23 April 2018

Newest models of diesel cars emit only small amounts of nitrogen oxide

ADAC assesses three passenger cars meeting the latest Euro 6d-TEMP emissions standard / low NO emissions even in adverse conditions

Der ADAC hat jetzt erstmals im ADAC EcoTest drei Diesel- Modelle mit der neuesten Schadstoffnorm Euro 6d-TEMP auf dem Prüfstand und auf der Straße untersucht: einen **BMW X2 xDrive20d Steptronic**, einen **Peugeot 308 SW 2.0 BlueHDi 180 EAT8** und einen **Volvo XC60 D5 AWD Geartronic**. Alle drei Fahrzeuge verfügen über SCR-Kats (selektive katalytische Reduktion) inklusive einer bedarfsgeregelten Einspritzung von Harnstoff (AdBlue).



Press release
Powertrain Solutions

BOSCH

April 25, 2018
PI 10617 BBM FF/KB

Breakthrough: new Bosch diesel technology provides solution to NOx problem

- Unprecedented emissions: NOx 10 times lower than limits set for 2020
- Denner: "There's a future for diesel. Soon, emissions will no longer be an issue."

Record readings under real driving conditions: 13 mg NOx per kilometer

Since 2017, European legislation has required that new passenger car models tested according to an RDE-compliant mix of urban, extra-urban, and freeway cycles emit no more than 168 milligrams of NOx per kilometer. As of 2020, this limit will be cut to 120 milligrams. But even today, vehicles equipped with Bosch diesel technology can achieve as little as 13 milligrams of NOx in standard legally-compliant RDE cycles. That is approximately one-tenth of the prescribed limit that will apply after 2020. And even when driving in particularly challenging urban conditions, where test parameters are well in excess of legal requirements, the average emissions of the Bosch test vehicles are as low as 40 milligrams per kilometer.

- Give Diesel a second (or maybe third) chance?
- What are the implications for national AQ plans?

EDGAR Gridding tool

Setting

Training: "Emissions distribution methodology and introduction to EDGAR WEB-based gridding tool"

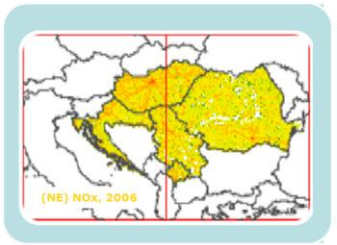
Date: 19-20 February 2018

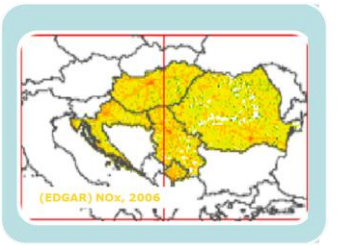
Location: EC/Joint Research Centre, Ispra, Italy

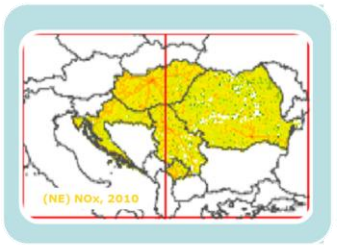
Agenda:

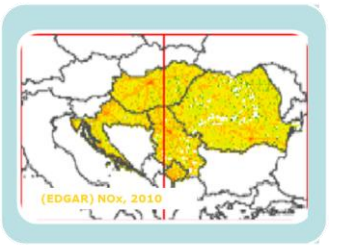
- **Session 1** "Convention on Long-Range Transboundary Air Pollution and EMEP/EEA: reporting requirements on gridded emission inventories"
- **Session 2** "Countries' Expertise and Perspectives"
- **Session 3** "Emissions inventory and emissions distribution: EDGAR methodology"
- **Session 4** "EDGAR Web-based gridding tool"
- **Session 5** "Practical applications and use the EDGAR Web-based gridding tool"
- **Lesson learned**

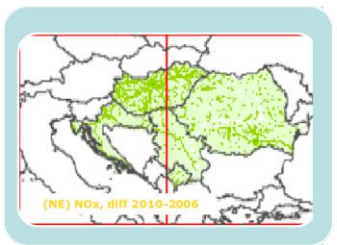
European Commission

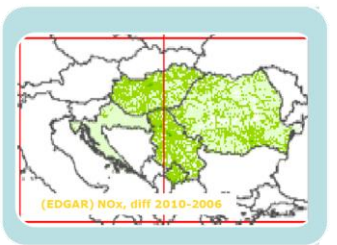












EDGAR: http://edgar.jrc.ec.europa.eu/

Access to the training documents:
ask for password by sending an e-mail to marilena.muntean@ec.europa.eu

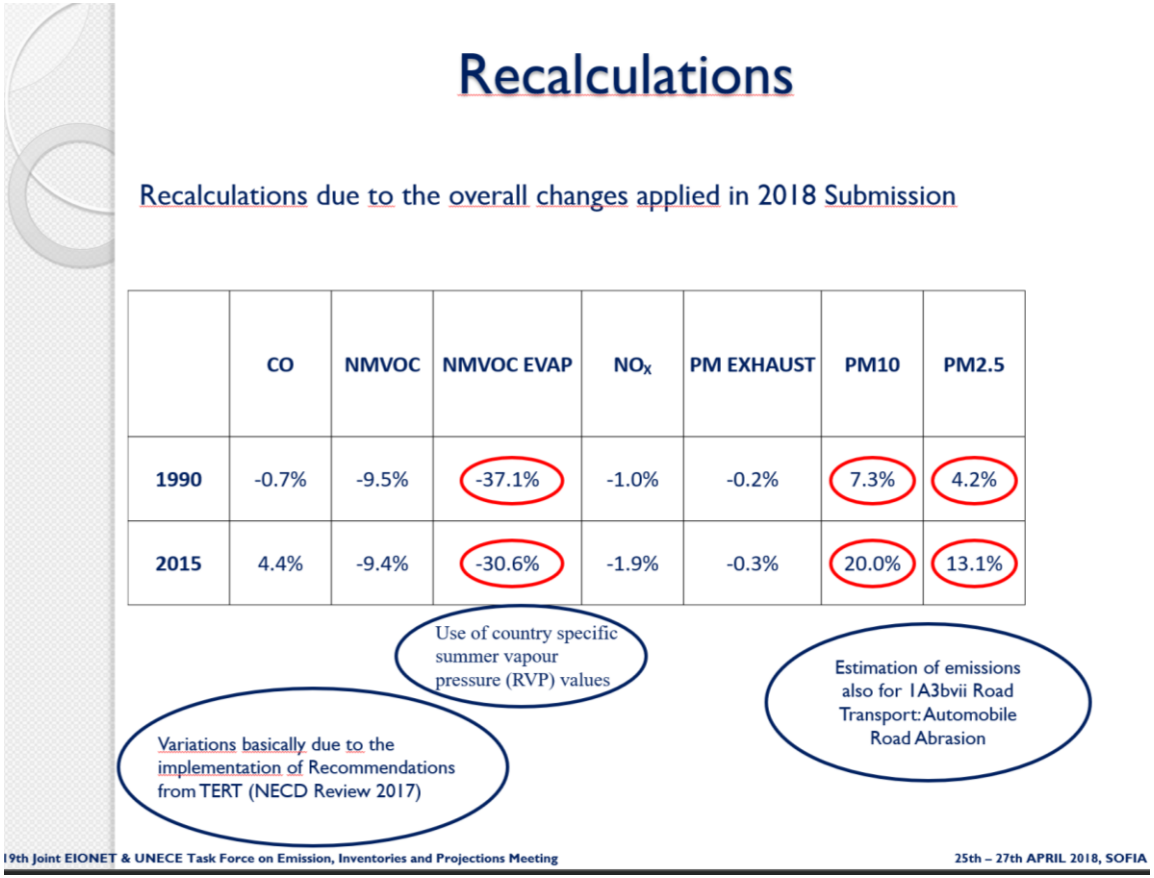
- Link to the **training documents**: http://edgar.jrc.ec.europa.eu/gridding_training_2018.php

ISPRA Istituto Superiore per la Protezione e la Ricerca Ambientale

European Topic Centre on Air Pollution and Climate Change Mitigation

EUROPEAN COMMISSION DIRECTORATE-GENERAL Joint Research Centre

COPERT 5 experience in Italy



Recalculations

Recalculations due to the overall changes applied in 2018 Submission

	CO	NMVOC	NMVOC EVAP	NO_x	PM EXHAUST	PM10	PM2.5
1990	-0.7%	-9.5%	-37.1%	-1.0%	-0.2%	7.3%	4.2%
2015	4.4%	-9.4%	-30.6%	-1.9%	-0.3%	20.0%	13.1%

Use of country specific summer vapour pressure (RVP) values

Estimation of emissions also for 1A3bvii Road Transport: Automobile Road Abrasion

Variations basically due to the implementation of Recommendations from TERT (NECD Review 2017)

19th Joint EIONET & UNECE Task Force on Emission, Inventories and Projections Meeting 25th – 27th APRIL 2018, SOFIA

- Changes also due to Italian inventorying system modifications

Revisions on AEIG Road Transport

- Review and uptake of Nordic study results
  - Update of NMVOC emissions profile
  - PAH and HM
- New exhaust emission factors for motorcycles
- New emission factors for electrified vehicles (diesel hybrids, plug-in hybrids, battery electric vehicles)
- Review of non-exhaust PM EFs ($PM_{2.5}$ over PM_{10})
- Conversion of Tier 1 and Tier 2 EFs to kg/MJ
- Consideration of rail abrasive emissions (German study)

One issue for the plenary

- Emissions of lube oil use in 4S engines
  - Due to unintended combustion of lube oil
- AP currently reported under NFR 1.A.3.b i-iv (Road Transport)
- GHG from lube oil consumption (other than 2S) reported under CRF 2.D.1 (Lubricant Use)
- Recommended to shift 4S lube oil consumption derived pollutants under NFR 2.G – Other Product use: Use of Lubricants and retain 2S under NFR 1.A.3.b i-iv

Workplan 2018-2019

- Review and uptake of Nordic study results
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