CHALLENGES AND PERSPECTIVES FOR EU AIR QUALITY POLICY

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Restructuring in the Commission

- **In 2010 new Commission**
  - ➔ Janez Potočnik new ENV Commissioner (former RTD)
  - ➔ DG ENV split into ENV and CLIMA
- **Old Clean Air and Transport unit split…**
  - ➔ Air quality now united with industrial emissions, national emission ceilings, noise…
  - ➔ Name: Industrial emissions (to be changed soon)
  - ➔ Head of Unit : Marianne Wenning
- **Synergies – related work on Emissions and Air Quality reunited**
  - ➔ Continuous work to exploit commonalities with climate change

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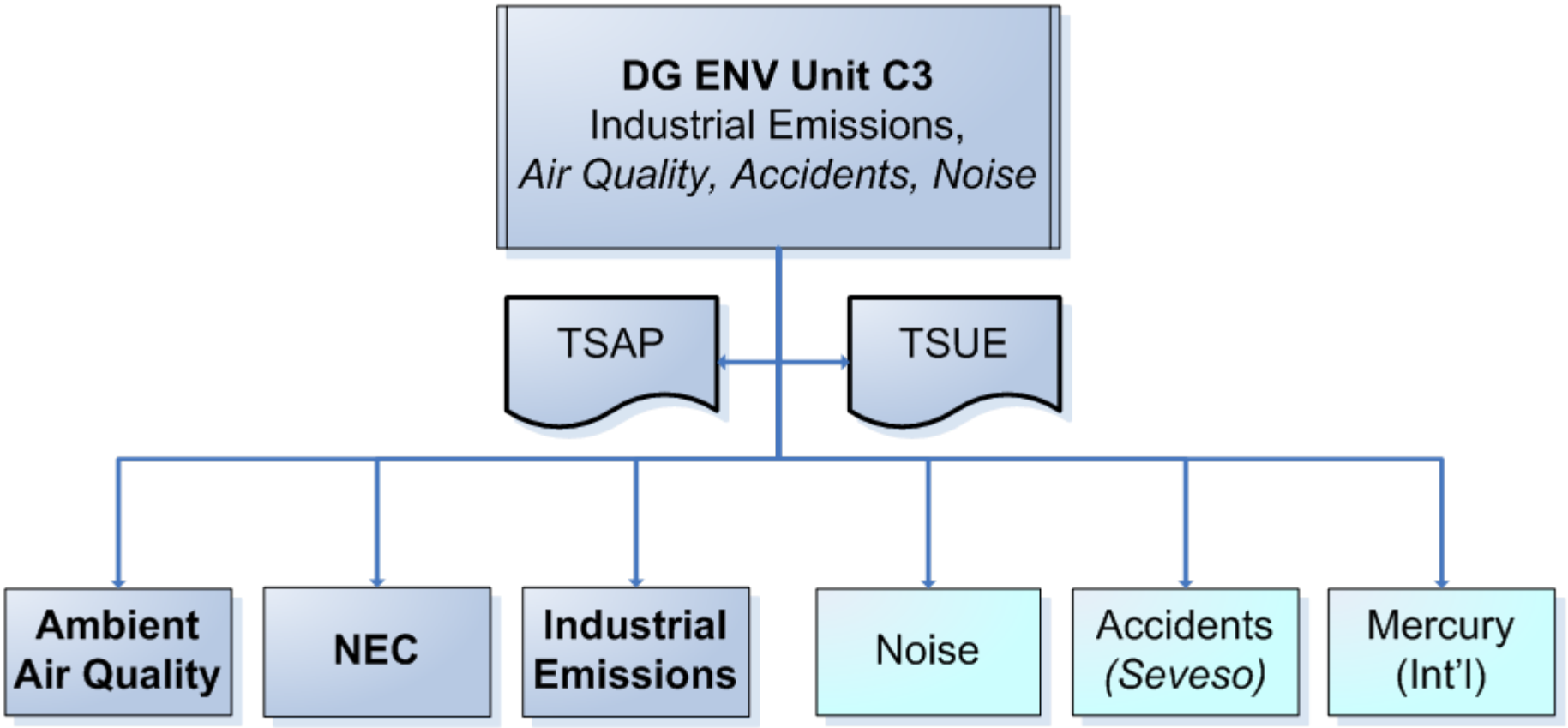
DG Environment, new Unit ENV.C3



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Ongoing work and perspectives

- **Assessment of time extension notifications**
  - ➔ PM_{10} notifications and re-notifications
  - ➔ NO_2 notifications
- **Implementing the (new) Ambient Air Quality Directives**
  - ➔ Air Quality Committee
  - ➔ Recasting Implementing Rules on Reporting (incl. EoI)
  - ➔ Completing & Updating Implementing Guidelines
  - ➔ Exchange of Best Practice (workshops, databases, …)
  - ➔ EIONET, AQUILA (measurement), and FAIRMODE (modeling),…
- **Monitoring the implementation of the TSAP (integration)**
  - ➔ Climate and Energy Package
  - ➔ Emission Limit Values (Real World Emissions)
- **Review of the EU Ambient Air Quality Policies**
  - ➔ Preparations ongoing for delivery in 2013
  - ➔ Issues: Health and other objectives (update), PM 2.5 (AAQD revision clause), EU vs Subsidiarity, assessment strategies …

Implementing rules on reporting

- **New reporting provisions concerning data quality**
  - CEN reference or equivalent method
  - Type approval or equivalence testing
  - Documented QA/QC system
  - Documented measurement traceability
  - Accreditation of National Reference Laboratory
  - Respect of Data Quality Objectives

The EU Ambient Air Quality Legislation (2008)

Directives 2008/50/EC and 2004/107/EC (4DD HM and PAHs)

- **Consolidating existing AQ legislation into a single Directive**
  - ➔ Various completing acts relating to monitoring and reporting
- **Confirming existing limit values that apply throughout the territory**
- **New air quality objectives for $PM_{2.5}$ (fine particles)**
  - ➔ A 25µg/m^3 (annual) target value attained as far as possible by 1.1.10
  - ➔ A 25µg/m^3 (annual) limit value to be attained everywhere by 1.1.15
  - ➔ A variable national exposure reduction target (reducing the measured average in a given calendar year between 0% and 20% by 2020)
  - ➔ A 20µg/m^3 "exposure concentration obligation" not be exceed by end 2015 (calculated as the average measured concentrations over a calendar year)
- **Possibility for time extensions for compliance (see later)**
  - ➔ PM_{10}: from 1 January 2005 to 11 June 2011
  - ➔ NO_2, benzene: 1 January 2010 to 1 January 2015
- **Possibility to discount natural sources of pollution and resuspension attributable to winter sanding-salting of roads when assessing compliance against limit values**

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No policy without metrology

- **Measurement is the starting point**
- **Measurements needed for**
  - ➔ Understanding of effects (levels vs effects)
  - ➔ Understanding of mechanisms
  - ➔ Checking compliance with air quality standards
  - ➔ Validation / calibration of models
  - ➔ Planning of measures (source apportionment)
  - ➔ Monitoring policy effectiveness
  - ➔ Informing the citizens

Current metrological challenges

- **PM10 / PM2.5 measurement uncertainty**
  - ➔ Filter artifacts with reference method
  - ➔ Equivalence testing for AMS
  - ➔ PM2.5 Average Exposure Indicator
- **PAH / Heavy Metals poorly implemented**
  - ➔ Finally CRM available
  - ➔ PAH reference method too uncertain (40% with NRLs)
- **Supporting assessments poorly implemented**
  - ➔ Ozone precursors, EC/OC, anions/cations
- **Over-estimation of NO2 levels**

Challenges: PM10 and NO2 exceedances (2008)

	Nitrogen dioxide NO_2*		***Particulate matter PM_{10}***	
	Annual limit value of 40µg/m^3	Hourly limit value of 200µg/m^3 (18 permitted exceedences)	Annual limit value of 40µg/m^3	Daily Limit value 50µg/m^3 (35 permitted exceedences)
Zones in exceedence	179	18	96	288
Total N° zones	793	793	792	791
% exceedence	22.5%	2%	12%	36%

* Limit values for NO2 only enter into force on 1 January 2010 and so the exceedence is of LV+10% Margin of Tolerance

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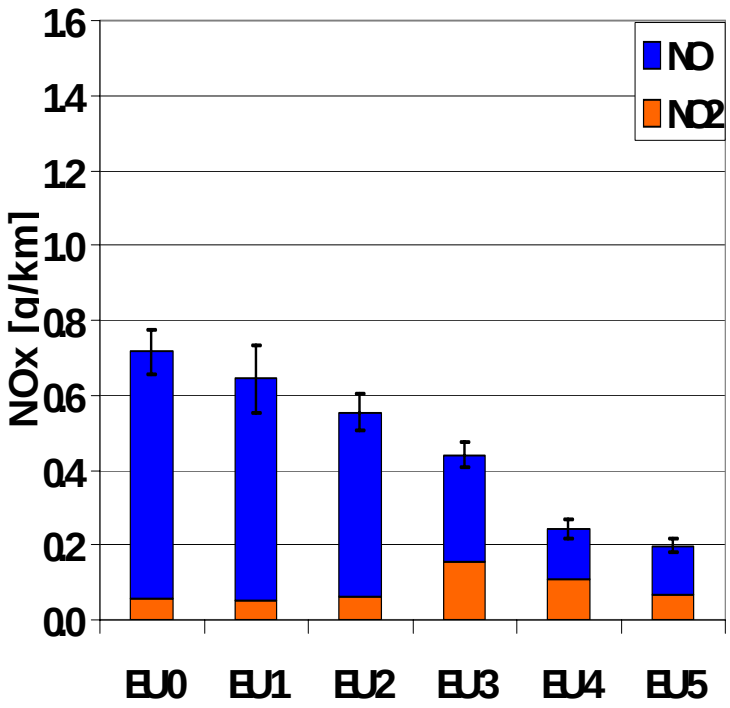
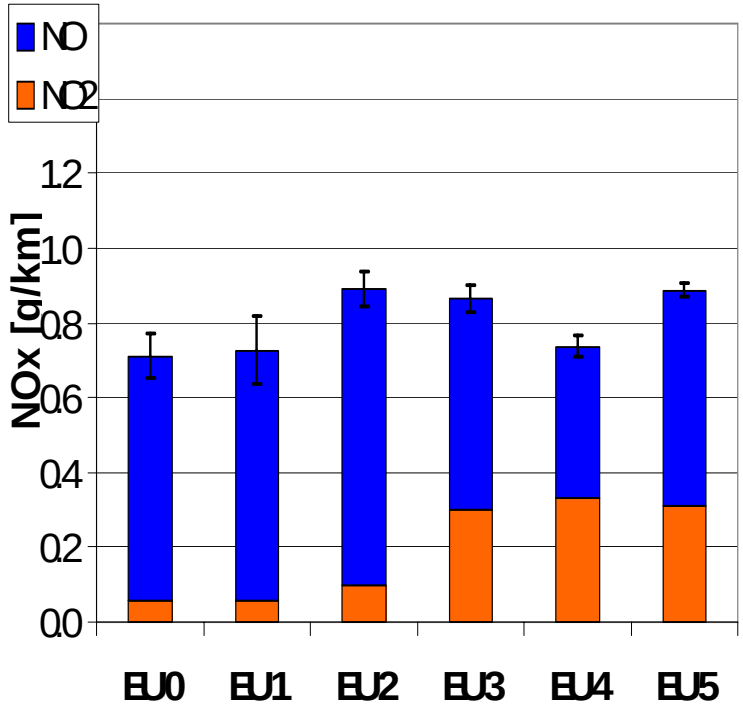
Emission coeficients, diesel

Diesel NEDC



Diesel CADC (hot start)



Source: S.Hausberger, TU Graz

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Future metrological challenges

- **Exposure assessment**
  - ➔ From ambient to indoor, personal monitors
- **Health relevant metrics**
  - ➔ From new metrics to toxic PM components
- **New generation of sensors**
  - ➔ Smart micro-sensors, spectroscopic techniques
- **GMES / PROMOTE framework**
  - ➔ GIS, earth observation techniques, data assimilation
- **Mathematical models**
  - ➔ Less but better measurements, model validation / calibration

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Expected outcomes of AirMonTech

- **Sharing knowledge through database**
  - ➔ Type approval, equivalence, SOP, measurement uncertainty
- **Recommandations for revision of AQ policy**
  - ➔ Improved methods, new metrics, new techniques, new assessment strategies
- **Guidance on good practices**
  - ➔ SOP, QA/QC, calibration, traceability, assessment strategies
- **Dissemination of information**
  - ➔ Building capacity on AQ metrology
- **Bridging gap between Health and AQ community**

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Thank you

http://ec.europa.eu/environment/air/index.htm

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