
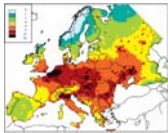


Regulatory Background to Diffusive Monitoring

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Regulatory Background to Diffusive Monitoring

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European Commission
1) DG Environment
2) Joint Research Centre

RSC-AAMG Krakow September 2009

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2002: 6th Environmental Action Programme

'achieving levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment'; (Art 7.1. of 6th EAP)

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Outline

- **General outlook**
 - Existing legislation and new Directive 2008/50/EC (AQD) (Objectives, expectations, changes and legal provisions)
 - Implementation, enforcement and supporting activities
- **Diffusive monitoring in implementation of EU AQD**
 - Expectations & challenges
 - Supporting activities
- **Future outlook and some policy messages**

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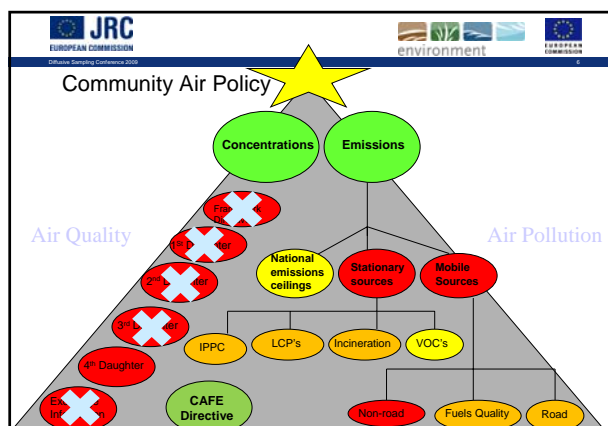
the past 15 years...

- **Framework Directive 96/62/EC**
 - Outlines general frame on assessment and management of air quality, and on public information
- **Daughter Directives 1 - 4;**
 - Specific assessment requirements, limit and target values
- **CEN develops standard methods for all regulated pollutants**
- **A number of Community measures in place to address emissions at source (EURO standards, IPPC etc.) and ceilings are set on national emissions**
- **2005: Clean Air for Europe (CAFE) delivers Thematic Strategy on Air Pollution with interim targets up to 2020, proposes new Directive with PM2.5 objectives**

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now & future

- **Recent and ongoing**
 - Hyperactive AQ management under AQ directives (plans, measures)
 - energy and climate package
 - revision of major EU legislation on sectoral emissions
- **Upcoming: revision of AQ Directive in 2013**



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EU AQ Directive(s) - How does it work ?

- **Assessment (monitor, model, estimate) throughout the territory**
 - Minimum requirements (# stations...) vs. proper understanding
- **Inform public, Commission & Member States**
- **Develop air quality plan where necessary**
 - good understanding, abatement measures

New Directive maintains the concept, majority of provisions, all existing objectives

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New Directive – Expectations (I)

- Streamlined provisions, more clarity in implementation
 - Where limit values apply?
- **PM_{2.5} objectives, monitoring requirements**
 - Focused, more coherent measures, better information for further policy development
 - New approach: exposure objectives based on urban background monitoring in cities
 - Exposure monitoring operational on 1 Jan 2009!
- **More time for compliance, under conditions**
 - Art. 22
 - Assessment of measures by Commission

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New Directive – Expectations (II)

- **Expanded concept of deduction of natural contributions**
 - Better Assessment > better understanding of sources, more effective measures
- **Additional QA/QC provisions, reference methods...**
 - higher quality data (monitoring & modelling)
- **New reporting provisions**
 - Faster availability (NRT), higher quality, spatial dimension of AQ
- **Updated guidance**
 - Support to implementation and more harmonized approach

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Objectives for PM_{2.5}

Target and limit value

- **25µg/m³ annual average to apply everywhere** .
- **Target value in 2010, limit value in 2015**
Indicative limit value of **20µg/m³ in 2020, to be confirmed at review**

Exposure (based on national average exposure indicator)

- **PM non-threshold pollutant – adverse effects also below limit value**
- **Largest exposure in urban areas > average across cities**
- **Exposure concentration obligation 20µg/m³ in 2015**
- **Exposure reduction target to reduce national average measured urban background concentration 0 to >20% between 2010 and 2020 subject to later review**

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Article 6 of the CAFE Directive

(5) (...) measurements shall be made, at rural background locations away from significant sources of air pollution for the purpose of providing (...) information on (...) the chemical speciation concentrations of fine particulate matter (PM_{2.5}) on an annual average basis (...).

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Annex IV of CAFE Directive

Measurements at rural background locations irrespective of concentration

Objectives:

- ensure information on background levels to judge enhanced levels in more polluted areas,
- assess contribution from long range transport,
- support source apportionment analysis,
- validation data for modelling.

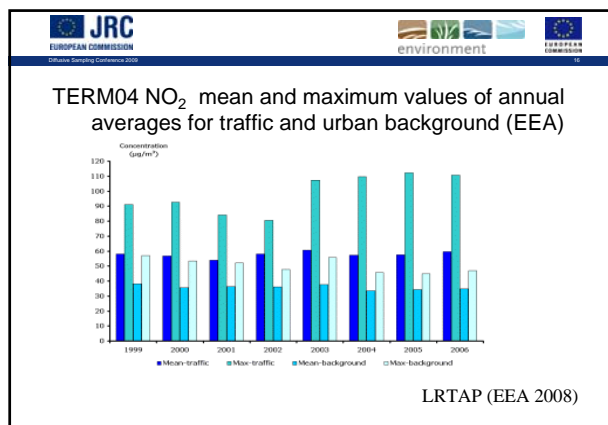
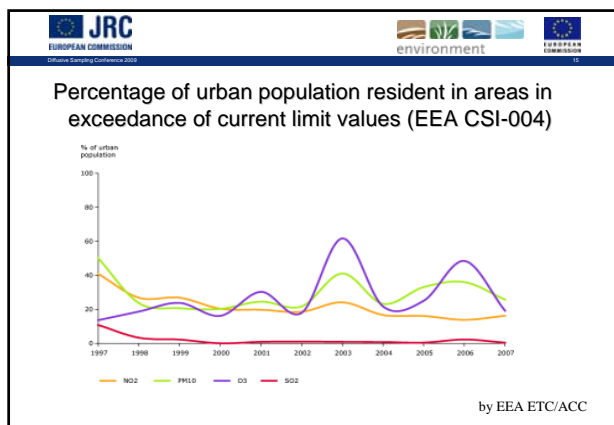
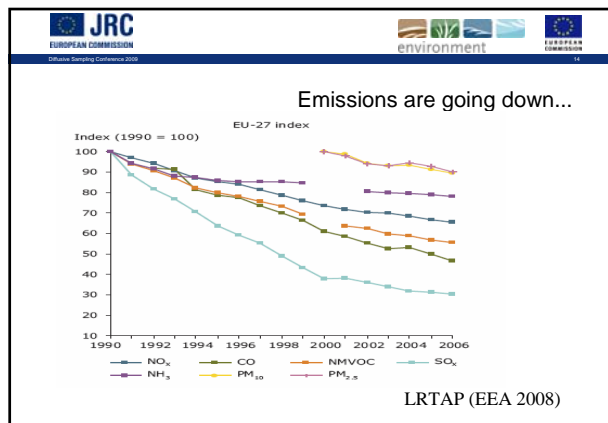
Substances: NO₃⁻, Cl⁻, SO₄²⁻, Na⁺, K⁺, NH₄⁺, Mg²⁺, Ca²⁺, EC, OC

Regulatory Background to Diffusive Monitoring

Where are we today?

While total emissions are falling, significant challenges remain as concentration levels remain high, posing continuous risk to public health and the environment.

Measures are required at EU, national and local level.



More time to comply : Article 22 (I)

- **PM10**
 - Up to June 2011
 - All appropriate measures taken to reach compliance in 2005
 - External reasons prevented compliance
 - Transboundary, climatic conditions, dispersion
 - Compliance demonstrated by new deadline
- **NO₂, benzene**
 - Maximum up to 2015
 - 2010 can not be reached (though measures taken...)
 - Compliance demonstrated by new deadline
- **Communication COM (2008) 403 final**

Article 22 (II)

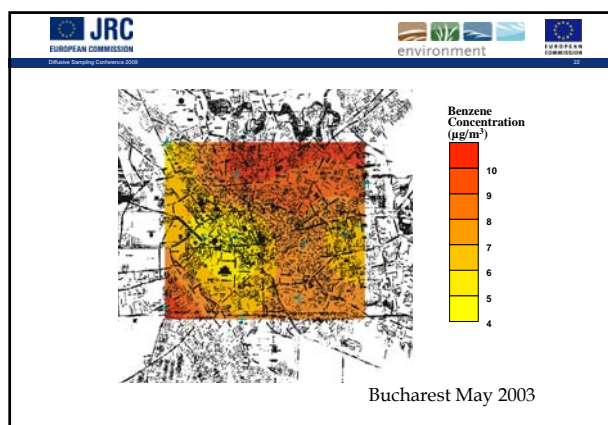
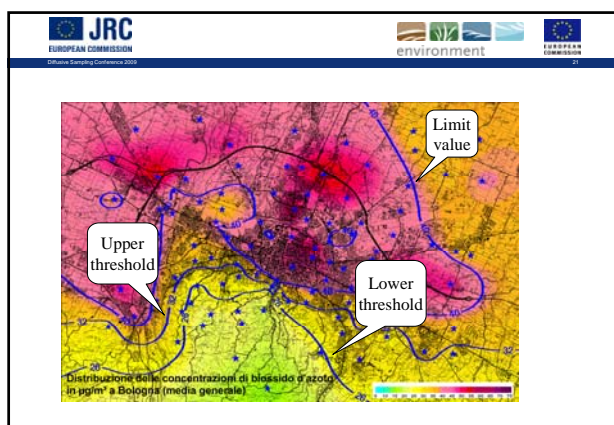
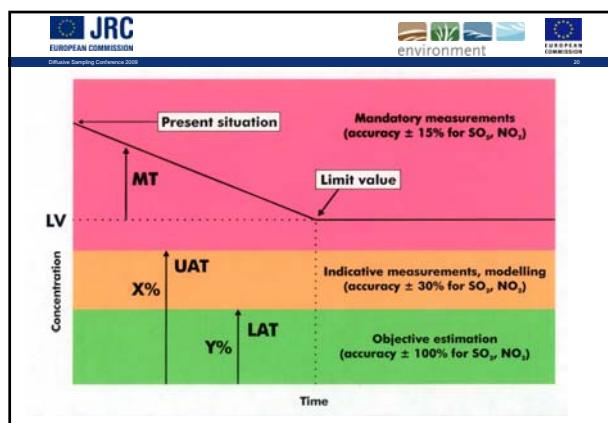
- **Notification by Member State (can be several)**
 - Air quality plan(s)
 - All other notification information
 - Use of Forms encouraged
- **Assessment zone by zone**
- Commission has 9 months to raise objections
- **Under AQD Committee WG on time extensions**
 - Discussion on Forms, clarifications, exchange of information between States
 - Bilaterals with Commission discouraged (resources)
- **Information continuously updated on web, CIRCA**
http://ec.europa.eu/environment/air/quality/legislation/time_extensions.htm

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AQD Implementation

- **Notifications under Art.22 – time extensions**
 - 18 Member States notified to date (primarily PM10, >300 zones)
 - (may not include all their zones in exceedance)
 - Decisions taken for 10 (NL, AT, BE, DE, DK, EL, ES, FR, HU, SK)
 - Pending in autumn (CZ, LV, IT, PT, DE, ES, PL, UK, BG, CY)
 - For NO₂ a large wave expected in 2010
- **Enforcement**
 - Lack of Plans and Programmes
 - Sulphur dioxide
 - PM10 : 10+ Member States
- **Development of guidance, implementing provisions on reporting, GMES development...**
- **AQUILA, FAIRMODE, EEA as data centre**



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Diffusive monitoring & EU Air policy

- Multiple uses :
 - Continuous and indicative monitoring (compliance)
 - Mapping - support to representativeness determination and station location selection, model results validation
 - Support to source apportionment and AQ plan development,
 - Monitoring progress and measure effectiveness
 - Public and personal exposure (and related HIA), ecosystem assessments...
- Legal provisions, if data is used for assessment under AQD:
 - Data Quality objectives : measurement uncertainty, time capture
 - Equivalence requirement

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DM Activities at EU level

Commission at EU level supports address of main challenges


- Support to development of standard methods (benzene, NO₂)
- Consideration of equivalence demonstration aspects
- Method validation programmes (JRC)


AQUILA common hub to address issues related to quality of diffusive monitoring

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Final messages

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- DM well accepted assessment method
- Increased opportunities due to standardised methods and drivers such as increased use of models, AQ management and exposure
- New AQD is well on the way
 - PM2,5 objectives, Art. 22 time extensions
 - Ambitious implementation, cooperation across governance levels needed
- Review/revision in 2013
 - Positive trends, good information crucial for successful revision
- Important links (where DM can help!)
 - Climate change, transport, indoor air quality

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Thank you

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

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