

# Revision of the National Emission Ceilings Directive

John Rea

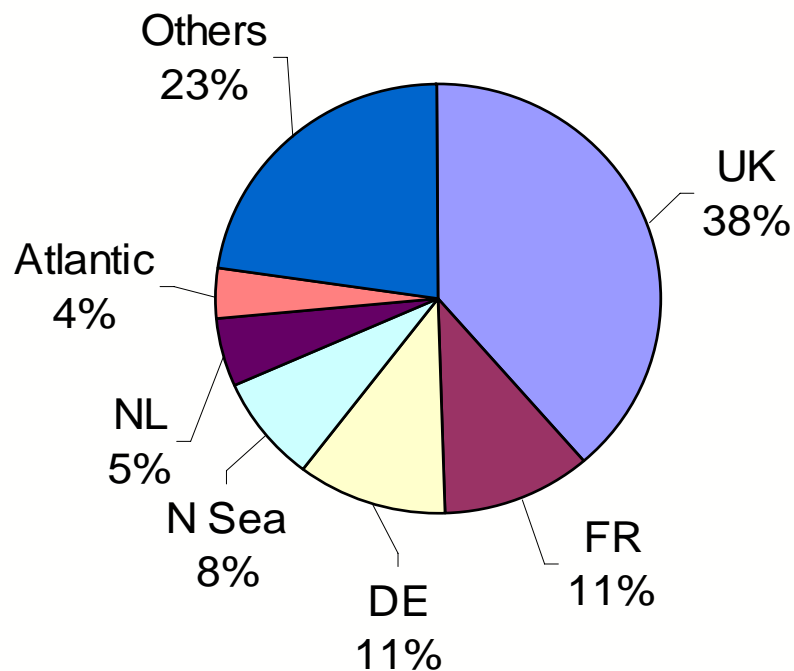
Air and Environment Quality Division

Defra

- Air quality causes significant adverse effects in UK:
  - Fine particles shorten average UK lifetime by 6-8 months
  - Health effects valued at £9-21bn/yr
  - >50% of UK ecosystems at risk of acidification or eutrophication damage
- Leading to continued pressure for regulation of:
  - Ambient air quality
  - National emission ceilings
  - Point source emissions
  - Product standards

# Why we need international action

## Origin of UK Secondary Inorganic Aerosol



Two way process –  
UK is the source of  
8% of both FR and  
NL SIA

Source – EMEP model

- Part of Commission's 2005 Thematic Strategy
- Large amount of preparatory work undertaken
- Similar approach to previous NECD, but:
  - 2020 end date
  - Ambition levels from 2005 Thematic Strategy
  - Includes PM<sub>2.5</sub> as driver
  - EU-27 rather than EU-15

- **Targets for 2020 compared to 2000:**
  - PM<sub>2.5</sub> – 47% reduction in loss of life expectancy
  - O<sub>3</sub> – 10% (15%) reduction in acute mortality + 15% reduction in forest critical level exceedence
  - Acidification critical loads – 74% (81%) reduction in forest exceedence, 39% (54%) in freshwaters
  - Eutrophication critical loads – 43% (32%) reduction in exceedence
- **Calculated using early version of PRIMES**
- **Are these still the most appropriate targets/balance between issues?**

# Integrated assessment modeling

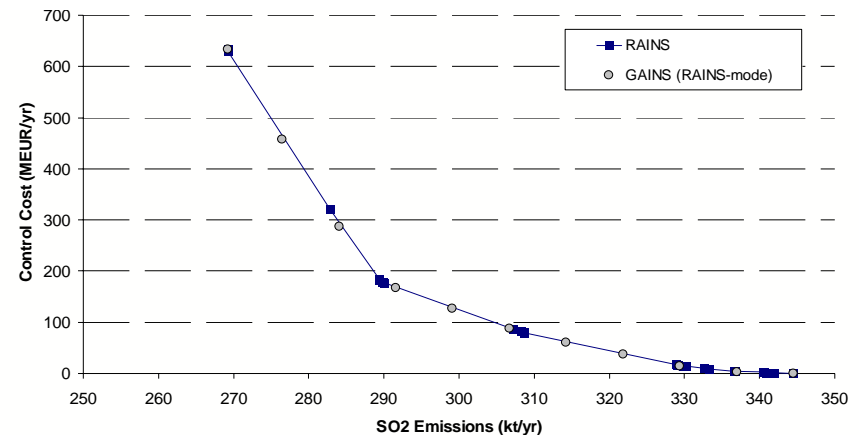
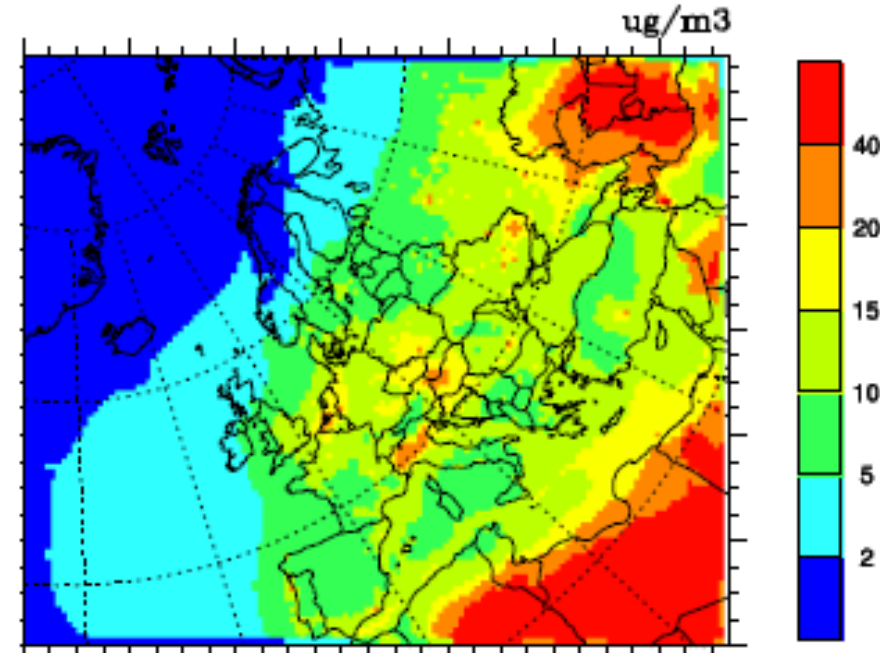


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Department for Environment  
Food and Rural Affairs

- Incorporates EMEP dispersion model, projected emissions, and cost curves
- Technical measures only
- Measures selected on basis of effects on receptors and cost
- Usually cheaper ways to meet ceiling
- Trade-off between level playing field and cost effectiveness

PM2.5 mod&obs; 2005



# Current Commission modelling for 2020

	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NH<sub>3</sub></b>	<b>VOC</b>
<b>NECD 2010</b>	585	1167	n/a	297	1200
<b>UEP30 - UK Energy White Paper</b>	290	862	83	287	873
<b>GAINS (NAP) - Current Legislation</b>	274	845	61	267	837
<b>GAINS (NAP) - Maximum reduction</b>	201	513	45	205	631
<b>Commission ambition level</b>	202	603	48	214	684
<b>Parliament ambition level</b>	202	514	47	207	634

**N.B. These will change!!**

# Problems with PRIMES version 2

	SO <sub>2</sub> kt	SO <sub>2</sub> €m	NO <sub>x</sub> kt	NO <sub>x</sub> €m
<b>UEP 30</b>	290		862	
<b>NAPs – CLE to MRR</b>	274-201	155	845-513	1184
<b>PRIMES – CLE to MRR</b>	146-100	130	658-373	1053
<b>NAPs optimised ceiling</b>	202	142	603	349
<b>PRIMES optimised ceiling</b>	122	12	505	62

- Ceilings based on PRIMES v2 are beyond NAP MRR
- PRIMES v2 assumes costs of meeting ceilings are negligible

- Originally planned for publication in 2007
- But...now linked to CO<sub>2</sub> burden sharing (due 23/1/08)
- New modelling required using new baseline
- Proposal by late Spring 2008 (June?)
- Agreement by Spring 2009??
- Risks include:
  - Realism of Commission projections (the PRIMES model) – potential for very difficult or unachievable ceilings in proposal
  - Knock on effects from burden sharing/renewables obligation/IPPC negotiations
  - May 2009 European Parliament elections

- New NECD is still some way off, but
  - Continued pressure for further emission reductions
  - More Integrated Assessment Modelling work needed
- During negotiation and implementation
  - Joining up climate change mitigation, air quality and IPPC targets and policies will be a challenge
  - We will seek to identify most cost beneficial ways of meeting ceilings using principles of better regulation
  - We welcome engagement with stakeholders