

Update from DEFRA

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Air and Environment Quality Division,
Forecasting Seminar, 15th April 2003



Summary

- EU Directives
- Air Quality Strategy
- LAQM
- Monitoring Networks
- Source apportionment of PM₁₀ and NO_x
- Air Quality Expert Group

EU Directives – 1st Daughter Directive

- Implemented by 19 July 2001
- Reported 2001 monitoring and modelling data to Commission 30 September 02
- Total of 16 zones and 28 agglomerations
- Exceedences of PM₁₀ 24 hour limit value (36 or more)
 - Monitored - 4 agglomerations, 1 zone
 - Modelled - 14 agglomerations (331.2 km roads), 7 zones (40 km of roads)
- Exceedences of PM₁₀ annual mean limit value
 - Modelled - 2 agglomerations (23.4 km of roads), 0 zones

EU Directives – DD1 (cont'd)

Figure 8.
Estimated annual mean background PM10 concentration, 2001
(ugm-3, gravimetric) Ref NETCEN 23/07/2002

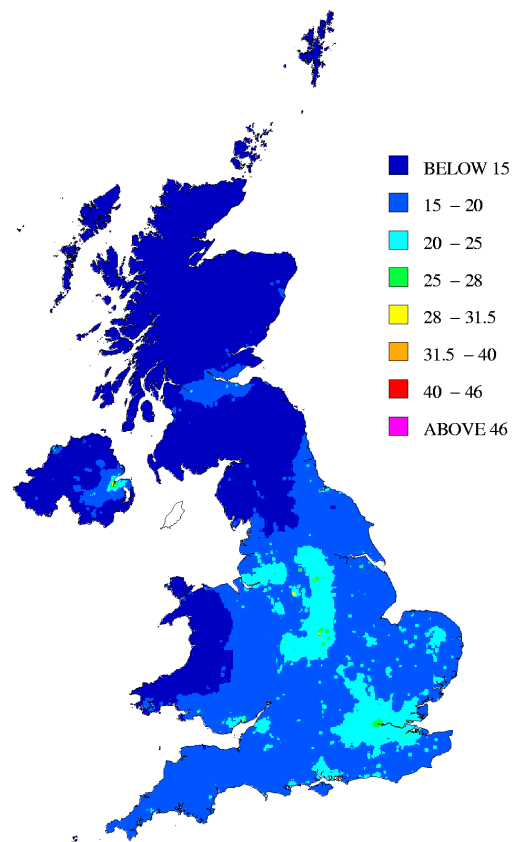
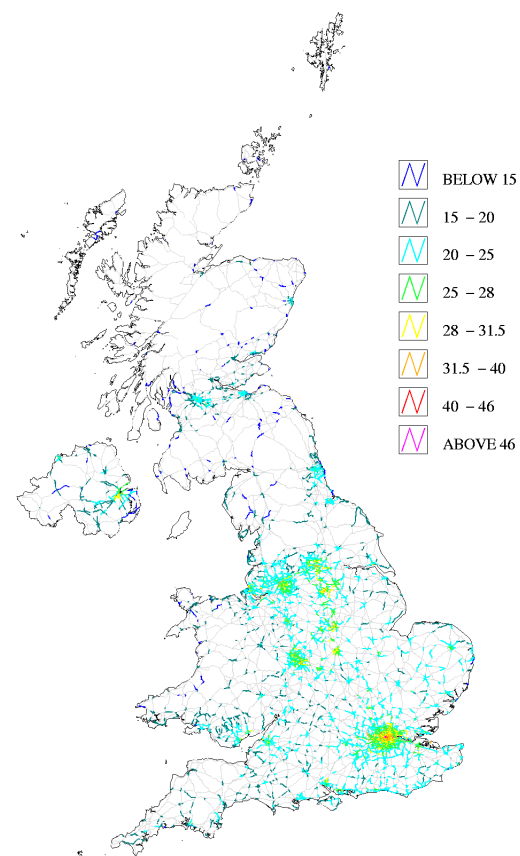


Figure 9.
Major built-up roads estimated annual mean roadside PM10
concentration, 2001 (ugm-3, gravimetric) Ref NETCEN 23/07/2002



EU Directives – DD1 (cont'd)

Exceedences of NO₂ hourly limit value (18 or more)

- Monitored – 4 agglomerations

Exceedences of NO₂ annual mean limit value

- Monitored – 4 agglomerations, 1 zone
- Modelled – 22 agglomerations, 11 zones
- 5743.7 km of roads, 991 km²

EU 2nd Daughter Directive – CO and Benzene

- Implemented by 13 December 2002
- CO – max daily 8 hr 10mg/m³ by 1 Jan 2005
- Benzene – annual 5µg/m³ (1.54ppb) by 1 Jan 2010
- Additional 35 benzene sites now in place (including Bloomsbury and Haringey Roadside)
- 2003 data will be the first year to be reported to the Commission (by 30 September 04)
- Hydrocarbon monitoring – planning to role out 1,3-butadiene diffusion tubes this year

EU 3rd Daughter Directive -Ozone

- To be implemented by 9 September 2003
- No limit values
- Target value = max daily 8hr $120\mu\text{g}/\text{m}^3$ (60ppb), up to 25 exceedences by 1 Jan 2010
- Long-term objective = max daily 8hr $120\mu\text{g}/\text{m}^3$ (60ppb) (no date)
- Information threshold – 1hr $180\mu\text{g}/\text{m}^3$ (90ppb) – notify public of current or expected concentrations above this value

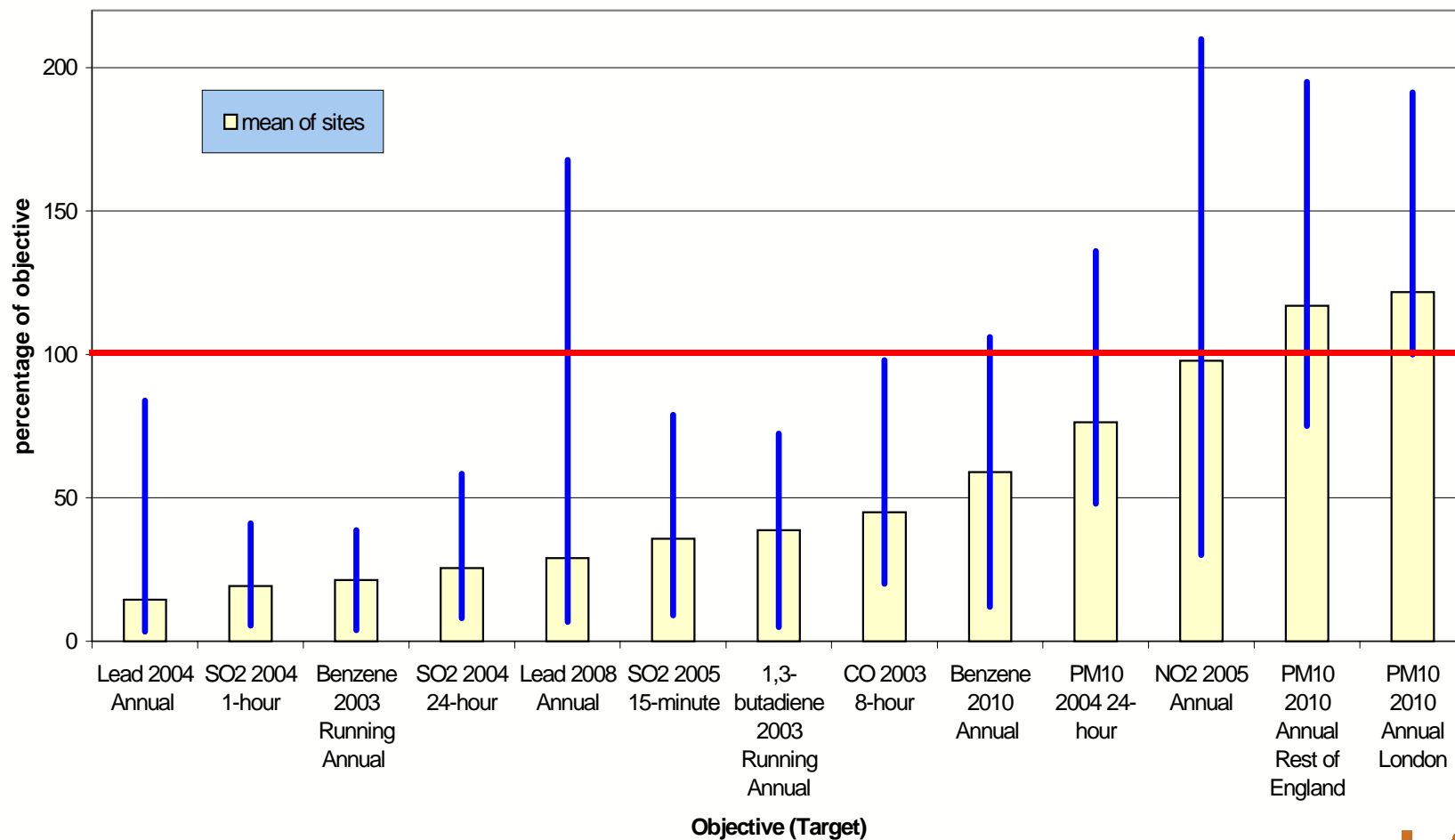
EU 3rd Daughter Directive - Ozone

- Requires both ozone and NO_x monitoring
- Adding a number of extra ozone and NO₂ sites to the network where necessary (including 2 new sites: Highland and NE England zones)
- Monitor precursor VOCs – extra gas chromatograph site going into Hydrocarbon Network at urban background site in London

Air Quality Strategy

- 2001 review of the Strategy target for PM₁₀
- New targets for PM₁₀, CO, benzene and PAHs
- CO and benzene targets now in Regulations for the purposes of LAQM
- PM₁₀ and PAHs not in Regulations

Current Air Quality



LAQM

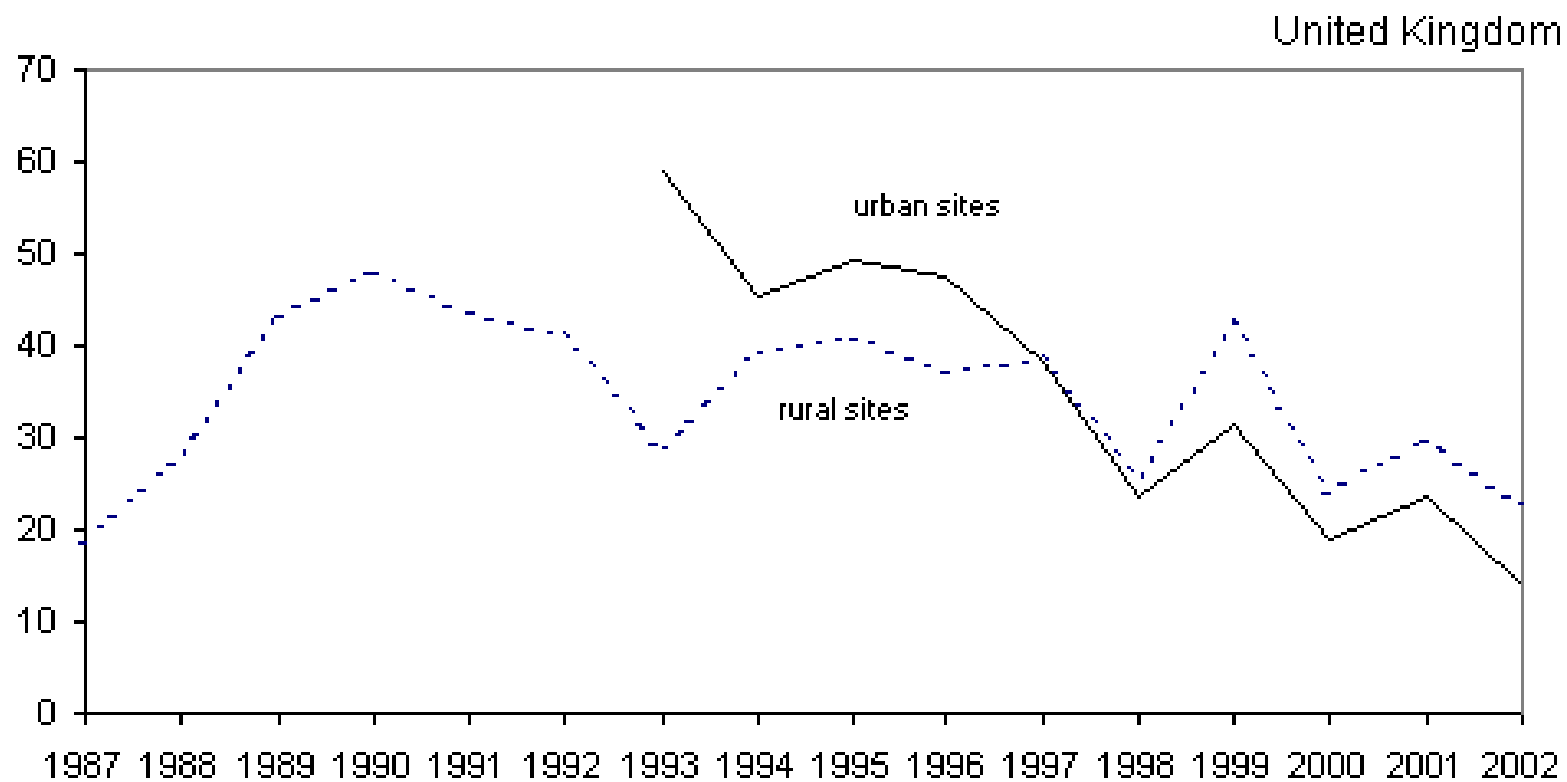
- Phase 1 began in 1997
- Around 120 AQMAs declared, mostly on annual NO₂ and PM₁₀
- 58 Stage 4 reports in
- Phase 2 began in February 2003
- Updating and Screening Assessments due end May
- Detailed Assessments or Progress Reports due April 2004
- Producing further guidance on error reduction by the summer and on progress reports by the Autumn

Monitoring Networks

- Currently 120 automatic sites in the urban and rural network
- At least 2 new sites going in for ozone directive
- Recently completed a review of the equipment in the AURN, including Defra owned London sites
- Replacing around 95 monitors over the Network, including 19 TEOMs, all original EUN sites, all rural network over 10 years old

Air Quality Trends

Days when air pollution is moderate or higher: 1987-2002

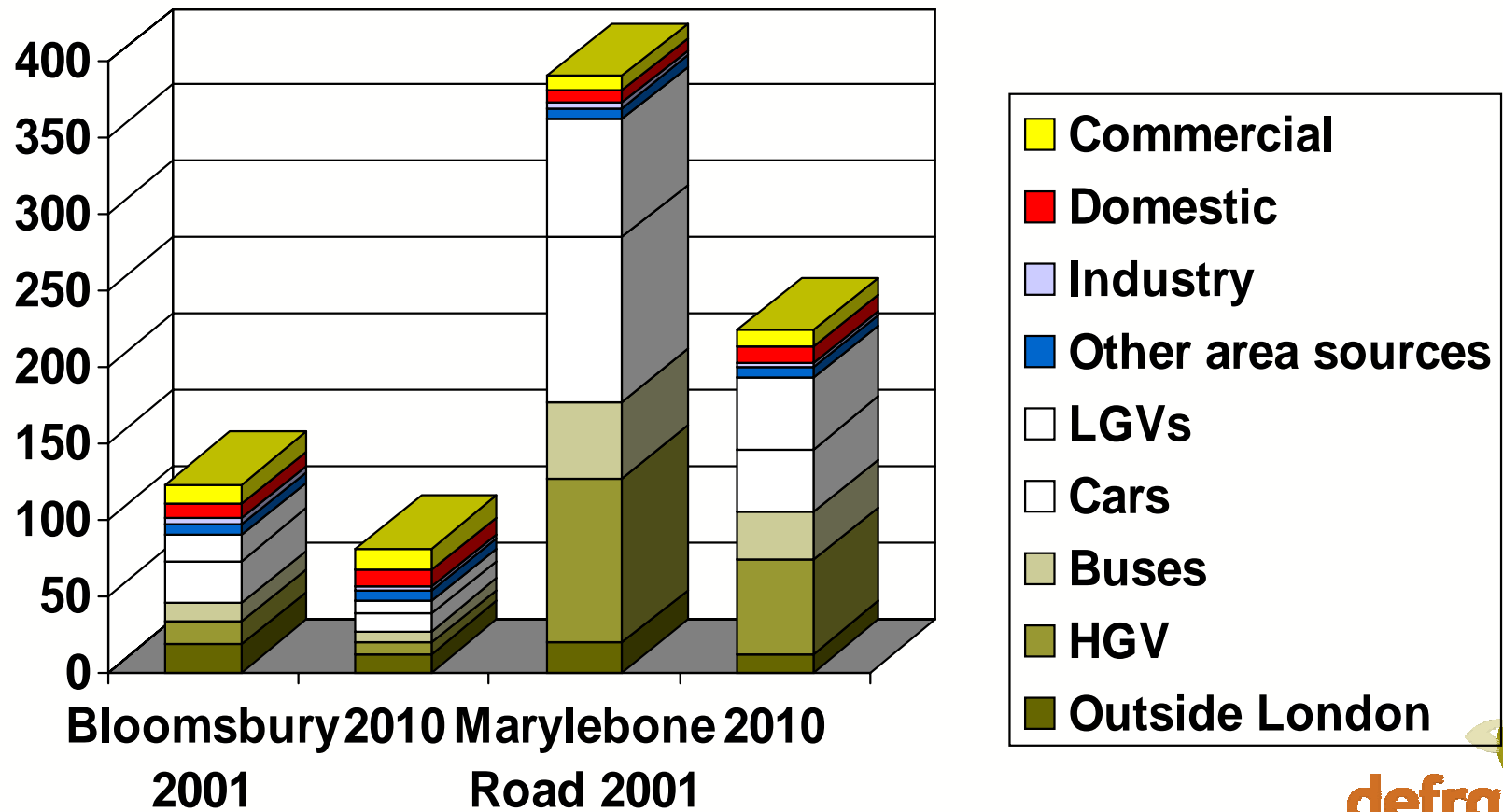


Source: NETCEN, DEFRA

Source Apportionment

- In developing optimal policies, we need to know what the contributions to concentrations are from different sources
- and how these are likely to change over time before we can identify possible policy packages
- and explore the costs and benefits.

Annual average NO_x contributions ($\mu\text{g m}^{-3}$)



Air Quality Expert Group (AQEG)

- Set-up to look at :
 - the sources, levels and characteristics of air pollutants in the UK
 - The extent of exceedences of current and proposed AQS objectives and EU limit values
- Chair – Prof Mike Pilling (Univ. of Leeds)
- Began work in July 2002 on nitrogen dioxide
- Draft for comment out May 2003