

# National Air Quality Strategy Review

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- Retention of Objectives
- Addition of new Objectives
- Exposure Reduction Approach

# Objectives: proposal to retain

- Pb;
- CO;
- Benzene
- 1,3-butadiene;
- PAHs (ongoing work);
- SO<sub>2</sub> (ongoing work);
- NO<sub>2</sub> (in order to stimulate further progress)
- PM<sub>10</sub> 2004 (in order to stimulate further progress);
- O<sub>3</sub> (in order to stimulate further progress);

- We have met, or are on track to meet the Objectives for:
- CO, Lead, Benzene, 1,3-Butadiene
- The SO<sub>2</sub> Objective has been met in virtually the whole of the UK. There are still a small number of problems and we are doing more work. But we are proposing to retain the Objective

- There are uncertainties in our modelling and projections of PAH(BaP) concentrations. However:
- The PAH Objective is based on the recommendations of EPAQS, PAHs are carcinogenic, and the objective is not prescribed in regulation and is an Objective rather than a binding EU limit value
- So we are proposing to retain the Objective.

- We are proposing to retain the Objectives for NO<sub>2</sub> and PM<sub>10</sub> (those for 2004/2005)

# Objectives: new proposals

## Human health:

- New PM<sub>2.5</sub> Exposure-Reduction Approach to replace PM<sub>10</sub> 2010 objectives for 2010;

## Ecosystems:

- For SSSIs + other protected sites, NO<sub>x</sub> (99%) and SO<sub>2</sub> (100% at 10ug.m<sup>-3</sup>);
- New O<sub>3</sub> objectives (from DD3).

# Exposure-Reduction Approach: what is it?

- Only for pollutants for which there is no safe level (i.e. particles);
- Formed by two inseparable components:
  1. “Backstop” or “concentration cap” objective (environmental justice)
  2. % reduction objectives over period of time in urban background areas (main driver for public health improvements)
- For PM<sub>2.5</sub> rather than PM<sub>10</sub> in order to follow latest WHO and COMEAP health expert advice.

# Exposure-Reduction Approach: our proposal?

Substitute the current  $PM_{10}$  2010 objectives with:

- a  $PM_{2.5}$  exposure reduction objective of 15% between 2010 and 2020 (urban areas)

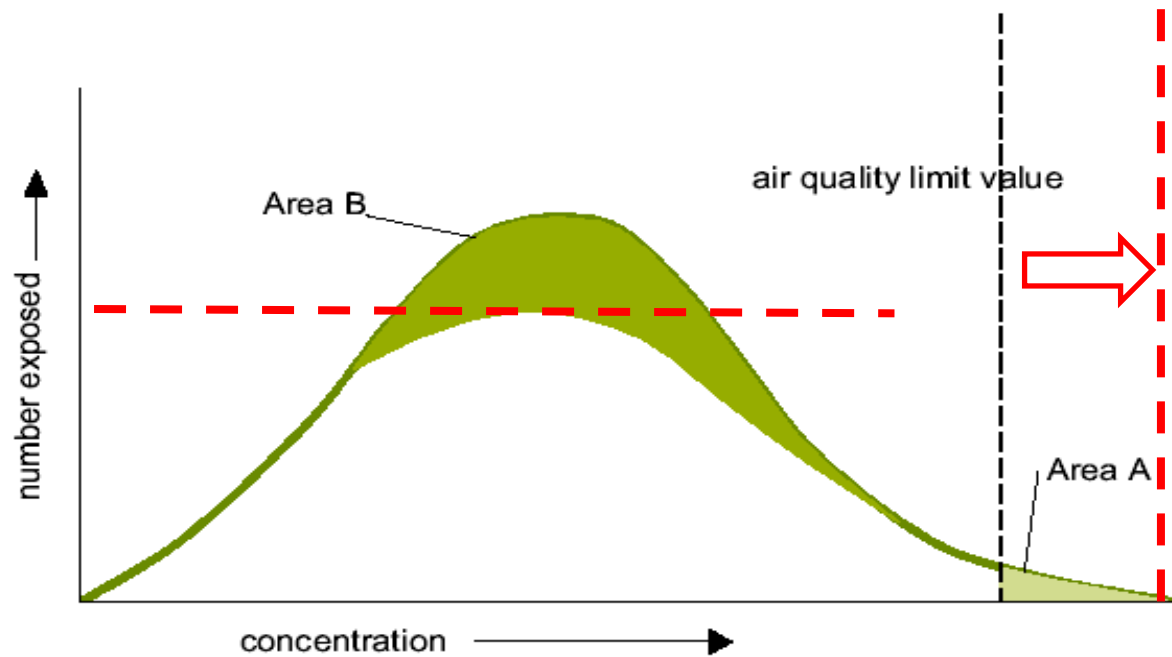
combined with

- a  $PM_{2.5}$  backstop objective or concentration cap objective of  $25 \mu\text{g}\cdot\text{m}^{-3}$  to be achieved in 2010 (everywhere)

# Exposure-Reduction Approach: what is it?

Figure 4.1

Annual number of people exposed vs. concentration of particles



# Exposure-Reduction Approach: the evidence

**Table 4.1:** Comparing exposure reduction approach and current objective/limit value approach

	Percentage of UK population above $20\mu\text{g.m}^{-3}$ (background areas only) in 2020	Public health improvements, expressed as additional million life years saved compare to baseline in 2020 <sup>31</sup>	Percentage <sup>32</sup> exposure reduction in urban areas between 2010-2020, $\text{PM}_{10}$	Percentage exposure reduction in urban areas between 2010-2020, $\text{PM}_{2.5}$
Baseline	26.7%	0	6.7%	11.5%
Combined measure Q	11.9%	3.25	11.7%	17%
Scenario Z	0	1.57	10.1%	13.4%

# Exposure-Reduction Approach: the evidence

**Table 4.2:** Estimated annual cost and benefits of exposure reduction approach and current objective/limit values approach

	Estimated annual present value of additional benefits <sup>33,34</sup>	Estimated annual present value of additional costs
Baseline	0	0
Combined measure Q	£864m to £1,918m	£481m to £488m
Scenario Z	£349m-£820m	Difficult to estimate in detail but likely to be very high (i.e. much higher than £488m) both in economic and social terms

# Exposure-Reduction Approach: at what level?

- Current proposal for UK level objectives
- Will investigate options for DA level in future
- Not proposed for LA at this stage because of:
  - Large number of monitoring sites needed
  - Can affect only little of their PM<sub>2.5</sub>