



Institute for Sustainability,
Health and Environment

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Assessing the potential for local action to achieve EU limit values

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bettertogether

Defining the problem

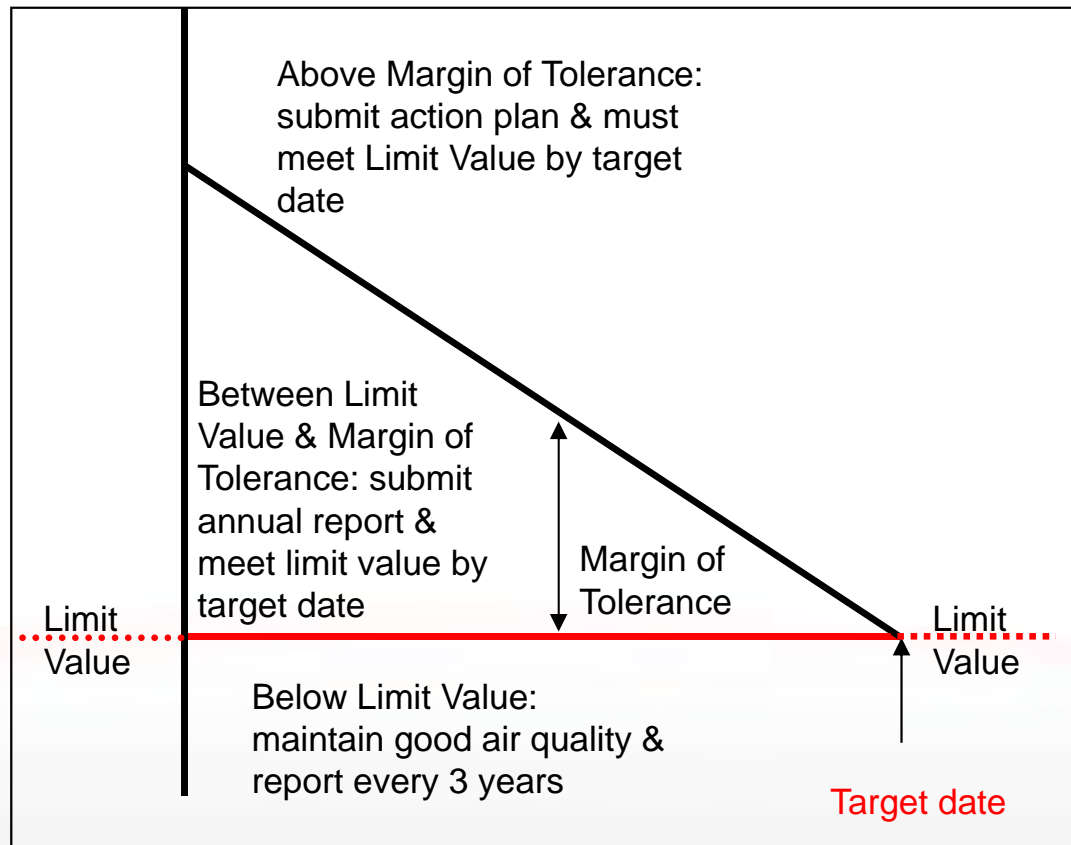
- The UK is currently exceeding EU Limit Values for
 - NO₂ annual mean in 40 out of 43 zones and agglomerations
 - NO₂ 1-hour mean in 3 out of 43 zones and agglomerations
 - PM₁₀ 24-hour mean in the Greater London agglomeration
- These exceedences indicate that the UK Government's approach to meeting the Limit Values, particularly for NO₂, has been insufficient.
- There is therefore an increasing burden on local government to assist in reducing NO₂ concentrations, however, the Local Air Quality Management (LAQM) process has not been designed to meet EU Limit Values and is therefore poorly calibrated to the task.
 - LAQM tools and techniques provide a diagnostic function but have not proven effective at reducing concentrations of traffic-related pollutants (i.e. NO₂ and PM₁₀).
- In this context, this presentation will examine the barriers and opportunities that emerge from the relationship between local and central government in the management of air pollution and pursuit of compliance with EU Limit Values.

Presentation outline

- This presentation will provide an overview of the air quality management process in the UK, examining the respective roles of national and local government, and the barriers and opportunities encountered in meeting EU Limit Values.
- What are the EU Limit Values?
- What has been the UK Government's approach?
- Why is this a local issue?
- What has been done locally?
- What barriers have been encountered over the last 14 years?
- What opportunities are there going forward?
- How can the UK Government resolve these issues to improve air quality and meet the EU Limit Values?

EU Limit Values

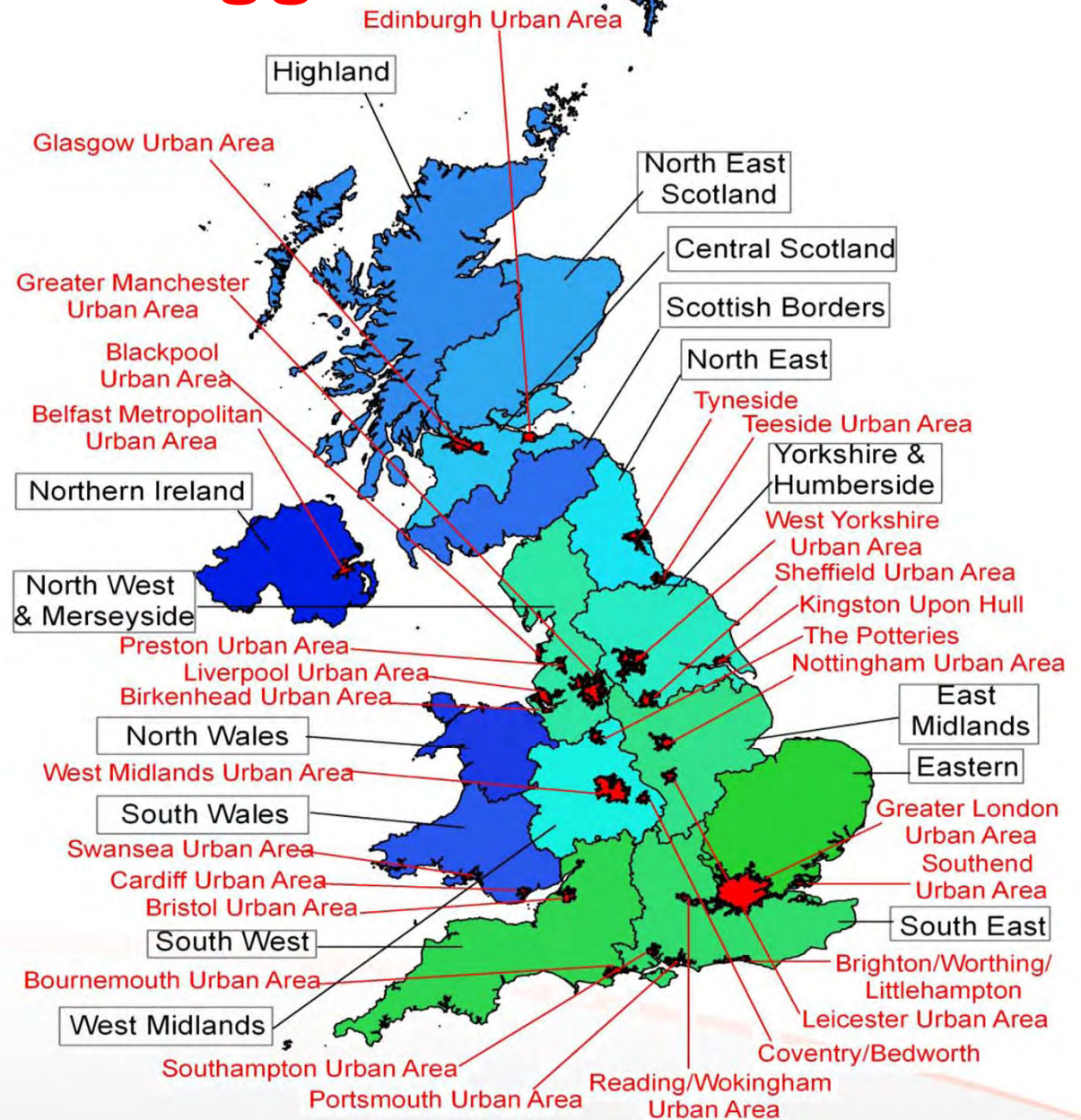
- The EU Air Quality Framework Directive (96/62/EC) and subsequent "Daughter" Directives (later subsumed within the Air Quality Directive (2008/50/EC)) established Limit Values + Margins of Tolerance for air pollutants based on health-based standards recommended by WHO.
 - Incl. SO₂, NO₂, PM₁₀, Pb, O₃, benzene, CO and other hydrocarbons



- Air Quality Directive (2008/50/EC) introduced time extensions for PM₁₀, NO₂ and benzene, so:
 - Target date for PM₁₀ was 1st Jan 2005, but 3-year time extension allowed.
 - Target date for NO₂ was 1st Jan 2010, but 5-year time extension allowed.

UK Zones and Agglomerations

- The UK is currently exceeding EU Limit Values for:
 - NO₂ annual mean in **40 out of 43** zones and agglomerations
 - NO₂ 1-hour mean in 3 out of 43 zones and agglomerations
 - PM₁₀ 24-hour mean in the Greater London agglomeration
- Exceedences are primarily traffic-related.



Key:
 Agglomeration zones (red)
 Non-agglomeration zones (blue/green)

Time Extension Notifications and Action Plans

- PM_{10}
 - The UK Government has recently received approval from the EC for its PM_{10} short-term action plan, which grants immunity for exceedences up to June 2011.
 - Further exceedences will not be permitted.
- NO_2
 - An action plan to request time extension for compliance with NO_2 Limit Value to 1st Jan 2015 is due to be submitted this month; draft currently under consultation.
 - The plan relies heavily on the implementation of Low Emission Zones (LEZs).
- Both plans have been criticised as inadequate for including measures that are unlikely to meet the Limit Values or protect public health
 - Environmental law group Client Earth are seeking a High Court order against the UK Secretary of State for failure to consult on the PM_{10} action plan and failure of the NO_2 action plan to set out to achieve compliance by the extended deadline.
- The EU Limit Value on NO_2 has been called into question by UK Government.
- Failure to comply with EU Limit Values may incur penalties ~£300m as well as ‘unlimited’ daily fines.

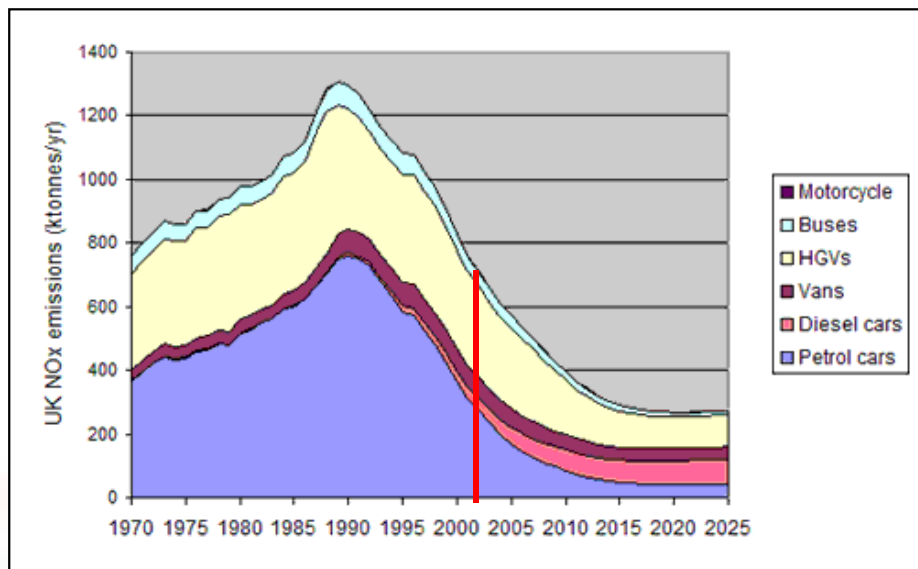
National strategy

- In 1997 the UK Government published the first of four Air Quality Strategies presenting the national approach *and* setting out the Local Air Quality Management (LAQM) process to manage air pollution.
- The national approach has been reliant on technological improvements/ emissions reduction strategies, e.g. Euro standards.
- Latterly conflicting policies for climate change (i.e. tax incentives for diesel vehicles, Renewable Heat Incentive for biomass burners) have a negative impact on NO₂ and PM₁₀.
- This has also had an impact on the UK's ability to meet the EU National Emission Ceiling Directive (NECD) for NO_x.
- The national AQS underestimated the capacity and capability of local government to help achieve EU Limit Values, but this is now being re-evaluated in recent Action Plans to EC and proposed national legislation, which put more emphasis on subsidiarity through implementation of local LEZs and the potential to pass down EU fines.

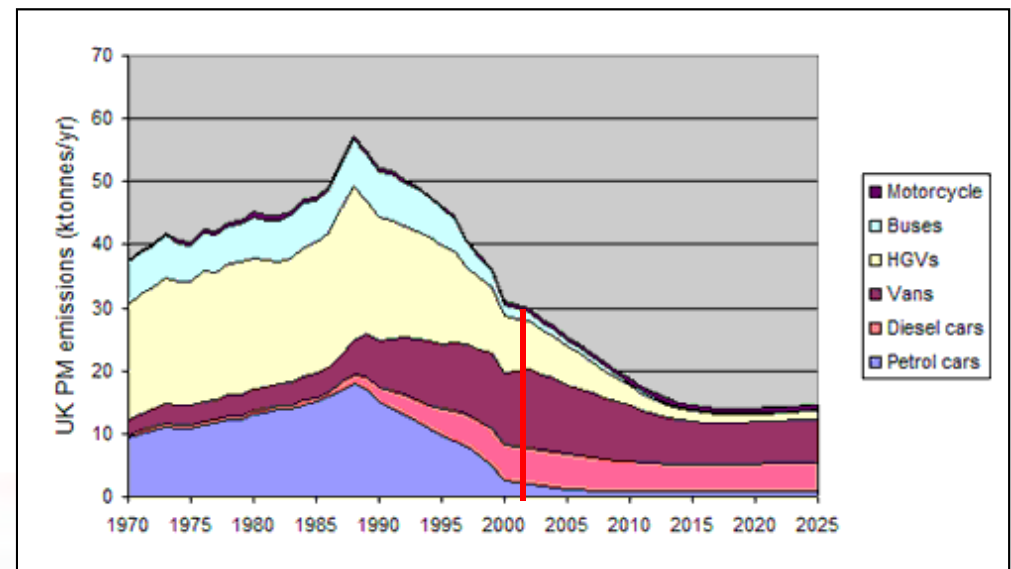


Euro Standards

- Progressively stricter emission standards for new vehicles have been enforced through a series of EU Directives since the early 1990s.
- LDV: Euro 5 came into force in September 2010; Euro 6 standards are due to come into force in September 2014 (<http://www.dieselnet.com>).
- HDV: Euro V came into force in October 2008 and Euro VI standards are due to come into force in January 2013 (<http://www.dieselnet.com>).
- UK road transport emissions were predicted to fall as emission standards got tighter.



NOx



PM₁₀

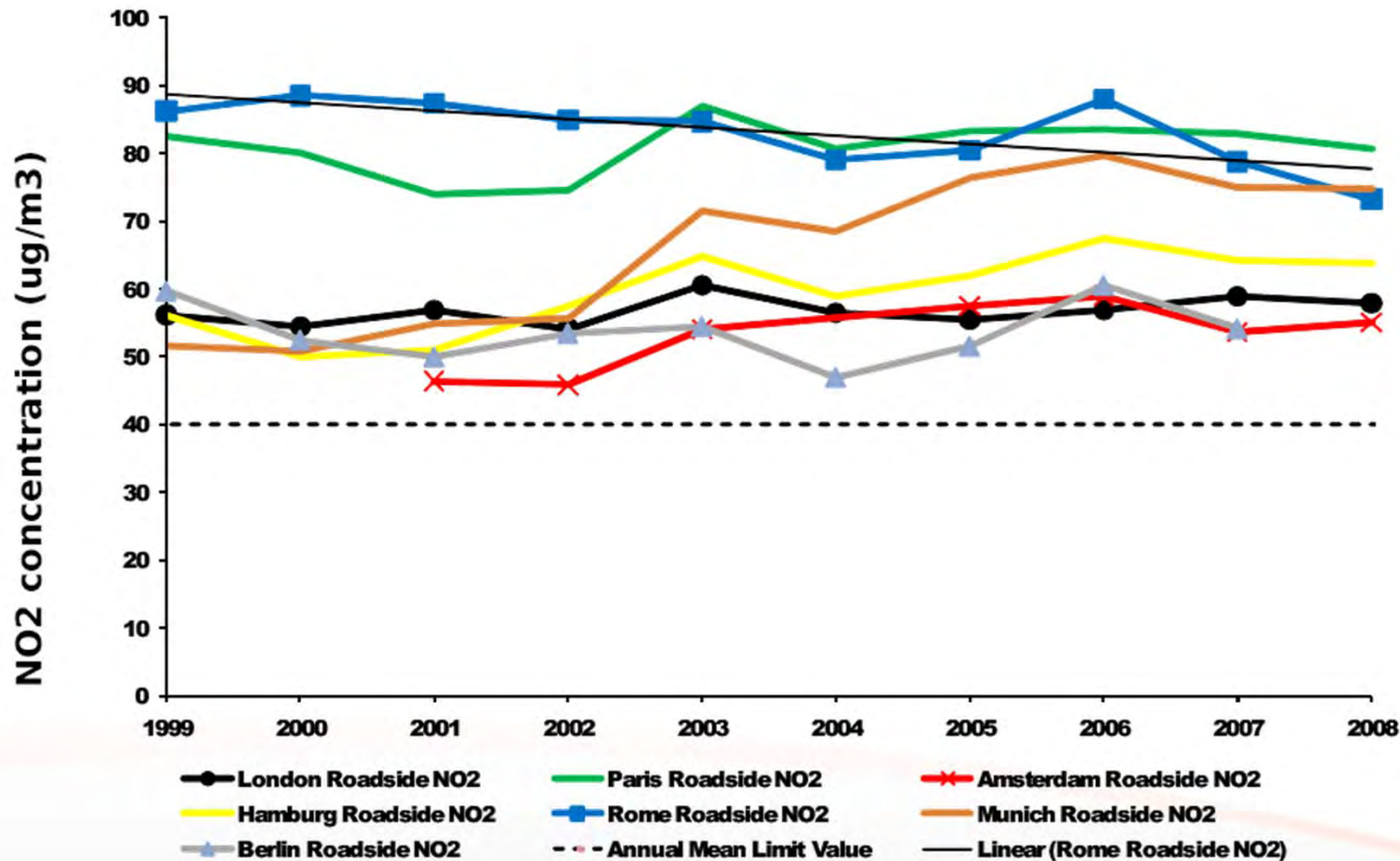
Projected UK national emissions from road transport (Source: 2002 NAEI projections)

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Roadside NO₂ concentrations are not falling

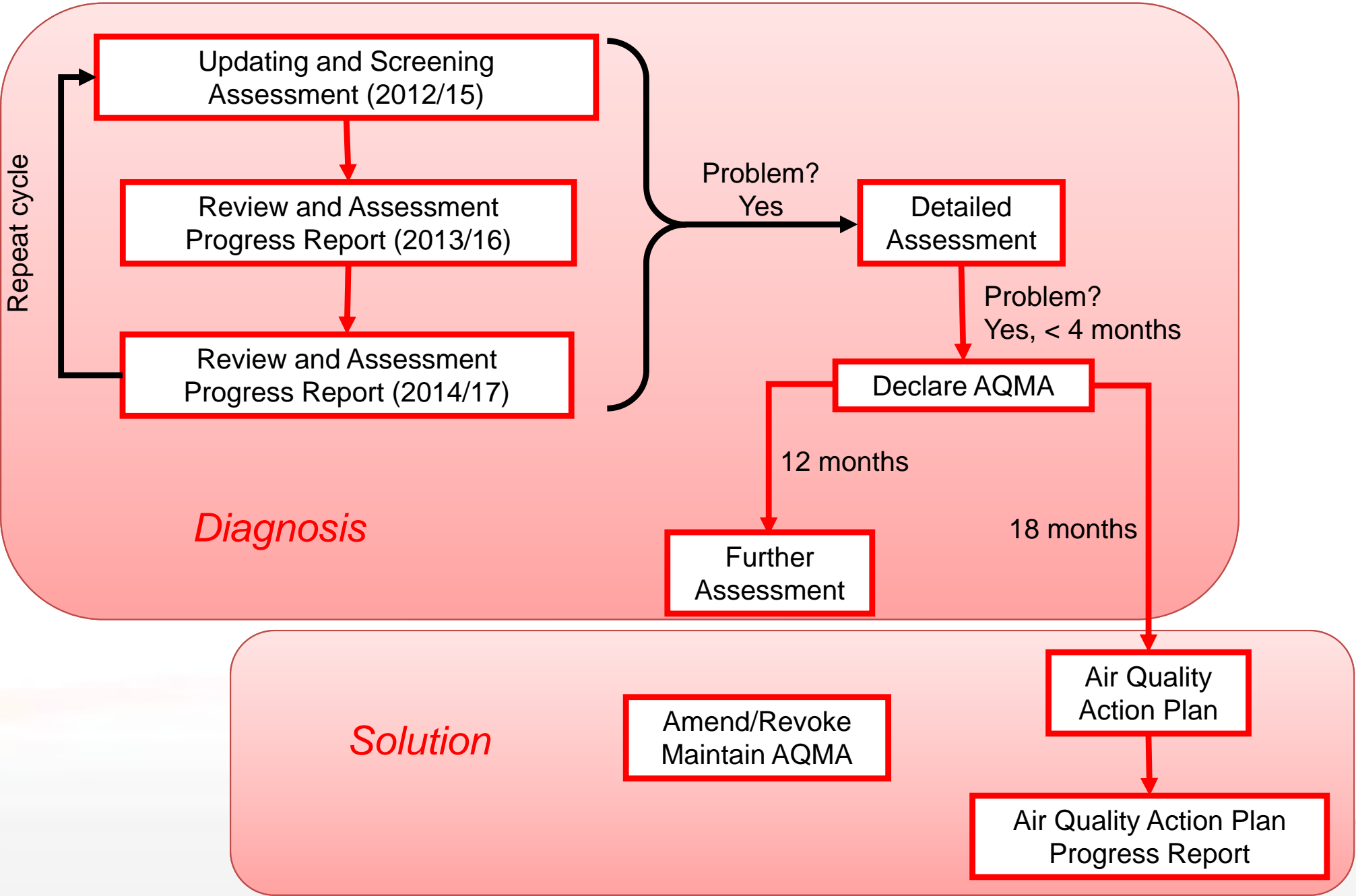
- Forecast transport emissions reductions were not upheld in real-world trials (Carslaw *et al.* 2011), so roadside NO₂ concentrations remained stable.



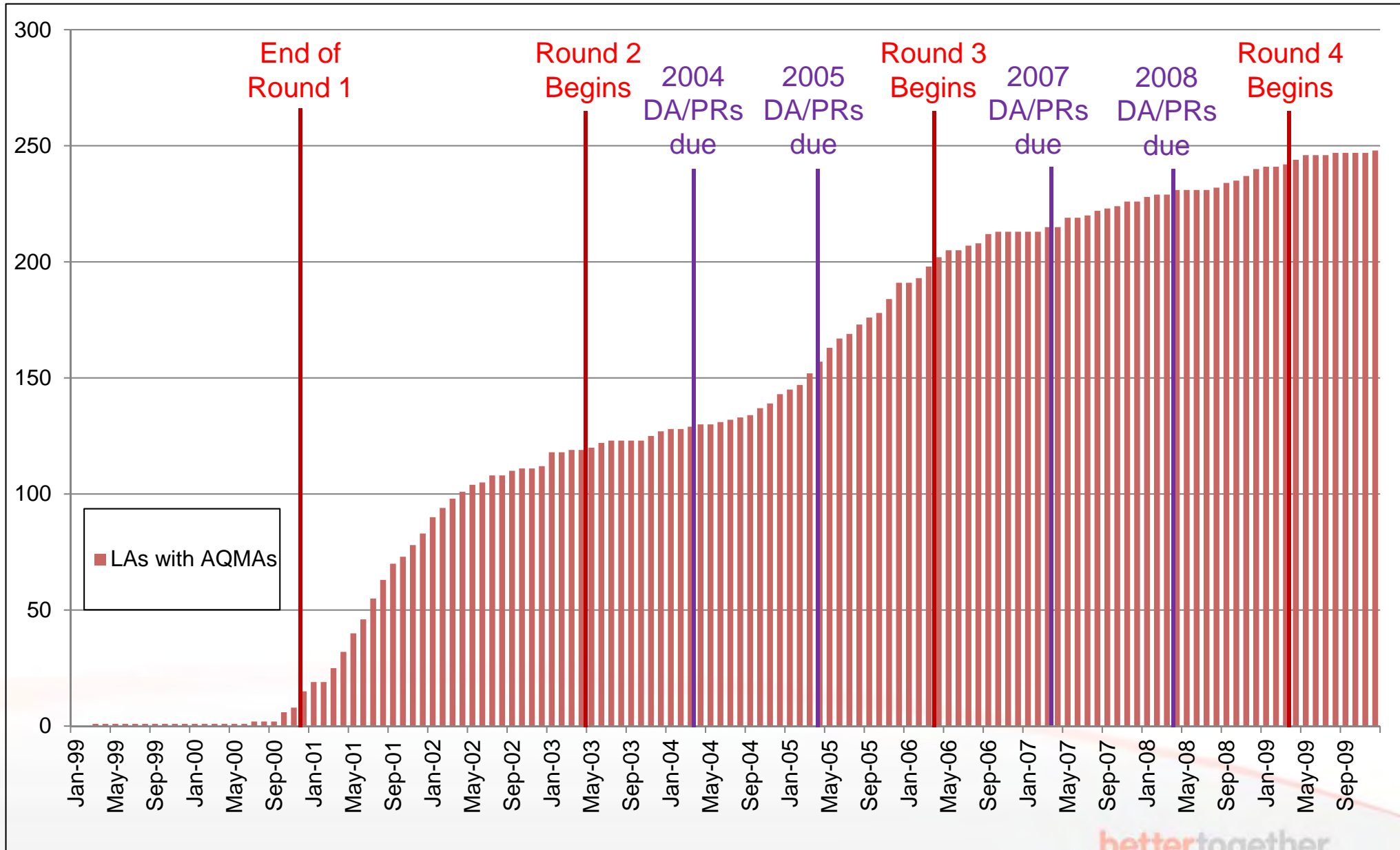
Local Air Quality Management

- The national Air Quality Strategy introduced Air Quality Objectives (AQOs) for LAQM, which were comparable with, but sometimes stricter than the EU Limit Values.
 - e.g. AQO deadline for NO₂ was set 4 years earlier than the Limit Value.
- Local Authorities (LAs) are required to produce annual reports to Review and Assess local air quality against these AQOs submitted to central government.
- Failure to achieve an AQO means the LA must declare an Air Quality Management Area (AQMA) and prepare of an Air Quality Action Plan (AQAP).
- LAs required to *work towards* meeting the AQOs in their AQAPs as it was recognised that local air quality was not only a local issue.
- LAQM has focussed on addressing pollution ‘hotspots’ as PM wasn’t recognised as a non-threshold pollutant.
- Review and Assessment good at identifying AQ problems.
 - ~60% (~245) UK LAs declared AQMAs, primarily for NO₂ and PM₁₀ from traffic.
- But as yet no traffic-related AQMAs have been revoked on the basis of LA measures implemented in AQAPs.

Local Air Quality Management



Number of Local Authorities with AQMAs



Barriers - National Government

- Recent parliamentary and in-house policy reviews have highlighted the lack of a cross-departmental strategy in central government to achieve the EU Limit Values, e.g. between Department for Environment, Food and Rural Affairs (Defra) and Department for Transport (DfT).
- There also appears to have been a lack of foresight of the potential for traffic growth to lead to poor air quality, and a slow/ limited reaction to emerging problems.
- The UK Government's reliance on improving technology to reduce air pollution has been undermined by the inability of new Euro standard vehicles to deliver.
- Public behaviour change has not been encouraged through the publication of poorly targeted and overly technical information on the health effects of air pollution and a lack of information on the public's role in improving air quality.
- The capacity and capability of local government to help achieve EU Limit Values was initially underestimated. Resources were spent on support and guidance for LAs to improve air quality, but no legal requirement for action (other than Further Assessments).

Barriers - Local Government

- The lack of a legal requirement for LAs to achieve AQOs has resulted in a passive/ reactive /laissez-faire approach to air quality management both institutionally and within relevant departments in some LAs.
- The low priority given to air quality management in local government has suffered from a lack of local political leadership and internally allocated funding.
- Oversubscribed air quality grants from central government have reduced and latterly have lost their 'ring-fenced' protection.
- Sources of emissions outside of direct LA control, e.g. motorway traffic, requires cross-agency and interdepartmental coordination, which has been challenging, and reflective of the national picture.
- Recent public sector cuts have reduced the capacity and capability of LAs to manage air quality at the same time as the national government introduces legislation which could result in EU fines being passed down to LAs.
- New challenges in the form of the 'Localism' Bill and 'Big Society' policies will lead to greater emphasis on getting air quality on the local public agenda.

Opportunities (1)

Passing the EU fine to local authorities could 'incentivise' action to improve air quality

- There is the possibility of legal challenge by local government and questions of policy fairness and equity have been raised where local government are unable to exercise control.
- Fines could be reduced if LA can show clear evidence of air quality improvements/ enactment of AQAP policies/ pro-air quality planning decisions.

The Coalition Government's policy on 'Big Society' could give a public voice to concerns over local air quality

- There is a risk that local economic interests may be prioritised over social or environmental benefits.
- A clear public health campaign to raise awareness of the effects of air pollution and public's role in improving air quality could help get air quality on the local agenda.

Euro 6/ EURO VI/ Future technologies may deliver forecast emissions reductions

- Opposition from motoring organisations and oil lobbyists may hamper their introduction.
- Investment in new technologies and real-world trials to test emissions will be required to ensure this strategy delivers.

Opportunities (2)

Rising fuel prices may reduce vehicle usage and change travel behaviour

- Historically fuel pricing and usage have shown an inelastic relationship, and there may be opposition where there is little alternative to private cars.
- Investing fuel taxes and vehicle excise duty in public transport could redress the balance (instead of cutting taxes and public transport subsidies!).

UK Planning reform could lead to sustainable development and reduce need to travel

- Business interests are likely to be preferenced in the light of government concerns over economic growth.
- Need to ensure that air quality is given adequate recognition as material concern in new Planning Regulations.

Win-wins from climate change policies/ practices could help reduce emissions

- The UK climate change policy framework and reduction targets are legally binding on the UK and have a high political and public profile.
- Multi-criteria decision-making is required to identify the right package of policies for local and national needs which takes into account emissions that lead to poor air quality.

Conclusions

- UK Government is responsible for meeting EU LVs, but will require action at a local level to achieve.
- Lessons from the last 14 years of LAQM have highlighted fundamental shortcomings at national and local government levels which need to be resolved.
- It is difficult to penalise for failure to meet EU LVs/UK AQOs due to transboundary issues:
 - Subsidiarity for fines runs counter to the degree of control over air quality.
- All of the opportunities highlighted require strong focussed and sustained government action in the face of powerful countervailing interests.
- Air quality management is a complex problem which will require complex solutions, reliant on behaviour change for economic actors in a complex system:
 - A long-term solution will need to encourage behaviour change in support of lower impact /low emission lifestyles, as part of a package of smarter regulation, incentivisation, new technology and information provision.

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Thank you for your attention.

Any questions?

Please contact Jo Barnes using the details below: