IMPLEMENTATION OF NEW & FORTHCOMING EC DIRECTIVES IN THE UK

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AIR QUALITY FRAMEWORK DIRECTIVE 96/62/EC

- Defines and establishes objectives for air quality
- Assess air quality on basis of common methods and criteria
- Monitor air quality and make results available to the public
- Maintain and where necessary improve air quality
- Covers PM, NO2, SO2, Lead, CO, benzene, Ozone, PAHs, As, Ni, Cd, Hg

FIRST DAUGHTER DIRECTIVE 1999/30/EC

- New limit values for SO2, NO2, PM10 and Lead
- Dates for meeting the LVs
- Alert Thresholds for SO2 and NO2
- Monitoring requirements - note PM2.5
- Other assessment requirements
- Public Information requirements

2nd, 3rd and 4th DAUGHTER DIRECTIVES

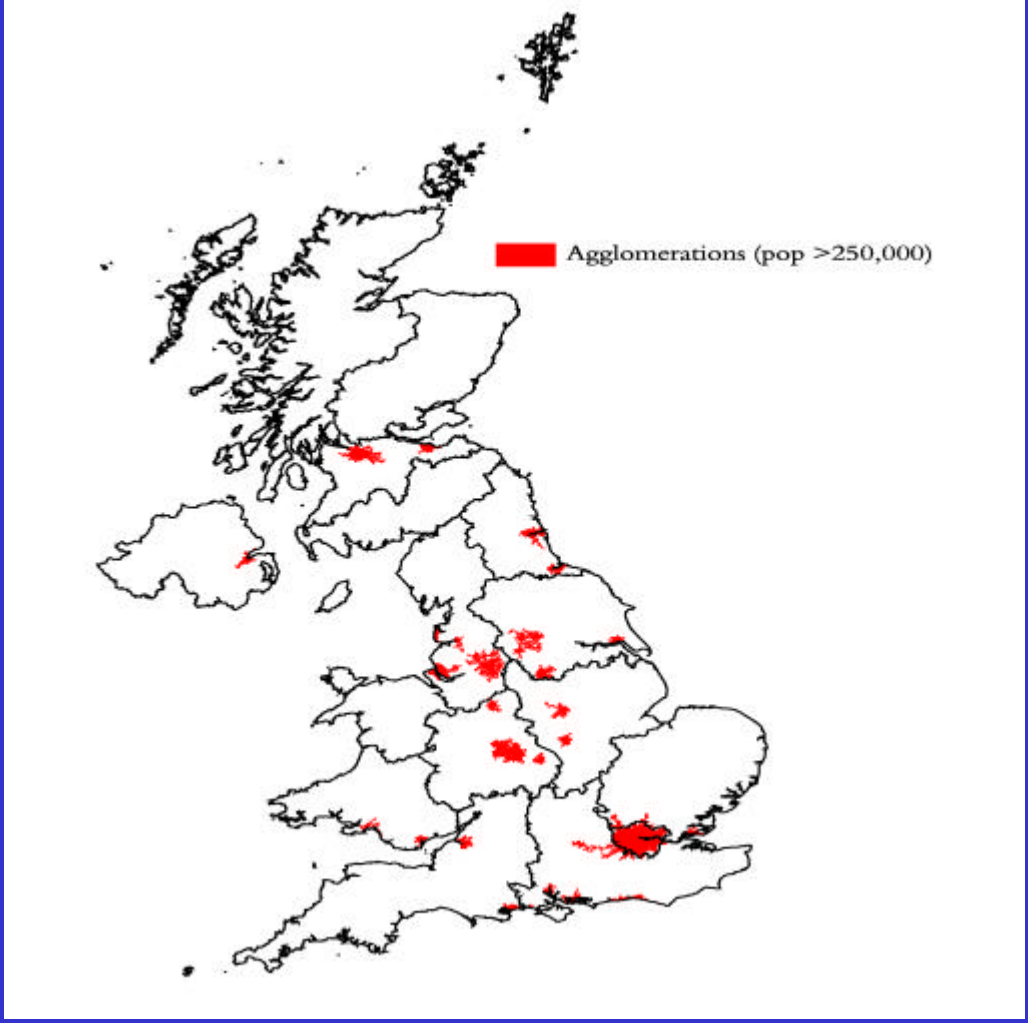
- DD2 - CO and Benzene; in course of transposition
- DD3 - Ozone; in final stages of negotiation
- DD4 - still to be formally proposed-pollutants on FWD list are PAHs, As, Ni, Cd, Hg

FIRST EU AIR QUALITY DAUGHTER DIRECTIVE

Designation of zones

- 43 zones
- 28 are agglomeration zones

FIRST EU AIR QUALITY DAUGHTER DIRECTIVE



FIRST EU AIR QUALITY DAUGHTER DIRECTIVE

Preliminary assessment for NO_2 and PM_{10}

- NO_2 preliminary assessment - all zones except 3 had exceedences of UAT at roadside and urban background, 2 only at roadside, 1 below LAT
- PM_{10} preliminary assessment - all zones had exceedences of UAT at urban background
- Measurement mandatory in all zones

Figure 2 Nitrogen dioxide Article 5 assessment map for urban background areas (ug/m3)

Ref: NETCEN/08062000/uk1no219991/art5_v7.apr/tb

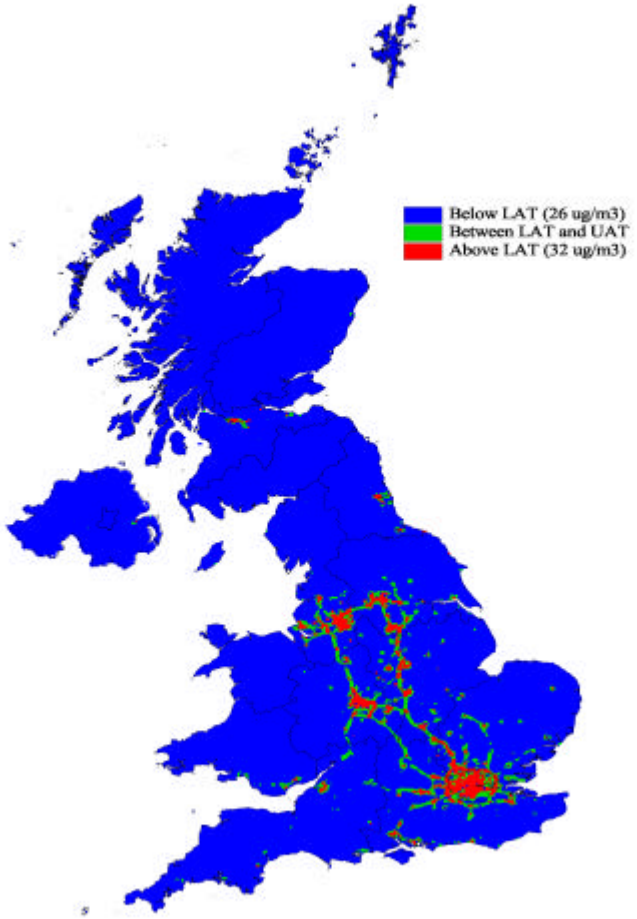


Figure 3 Nitrogen dioxide Article 5 assessment map for roadside locations (ug/m3)

Ref: NETCEN/0806/2000/mw/2199910/art5_v7.ape/rb

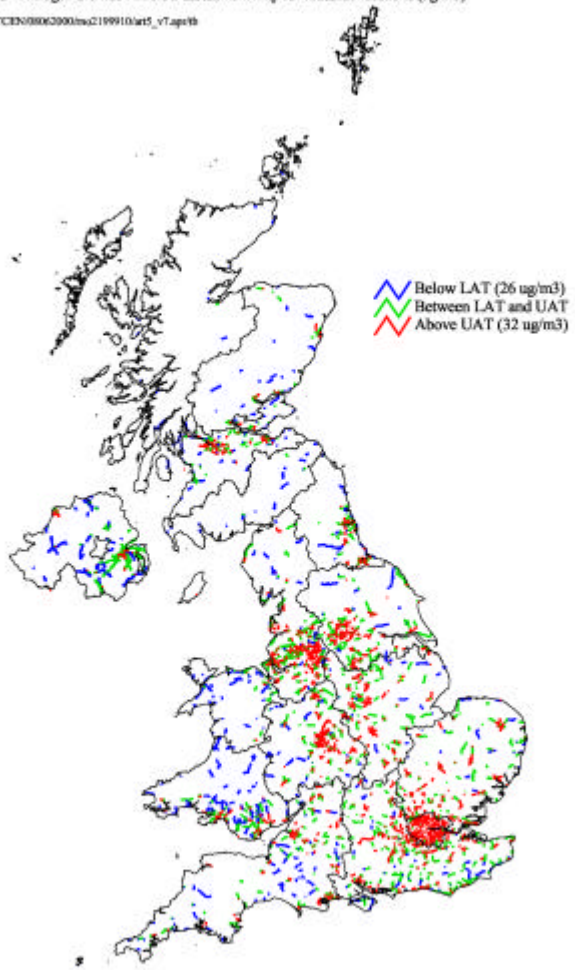
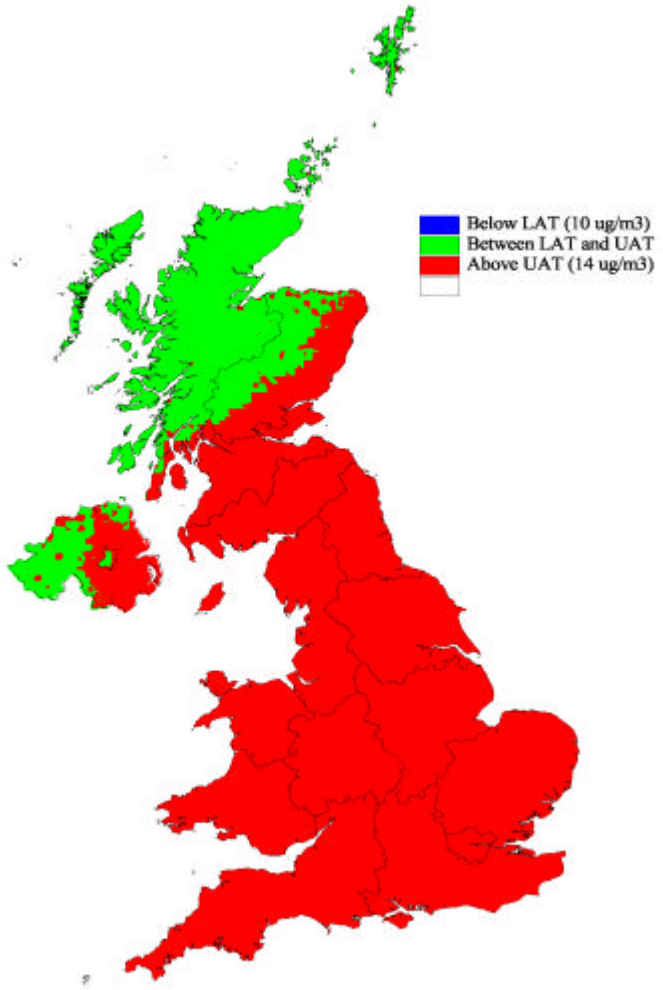


Figure 6 PM10 Article 5 assessment map for urban background area (ug/m3)

Ref. NETCEN/10062000/uk1_1999_10y1; art5zone.shp/art5_v7.ape/fb



NITROGEN DIOXIDE ASSESSMENT OF FUTURE LEVELS

- National Strategy annual mean 40µg/m^3 for 2005
- EU limit value annual mean 40µg/m^3 for 2010
- 1998 Strategy review assessed future levels of NO_2 in 2005 and 2010 using data from national monitoring network and a range of modelling studies
- National mapping methodology used to generate UK wide maps

NITROGEN DIOXIDE
ASSESSMENT OF FUTURE LEVELS

- Total UK NOx emissions 1990 - 2761 kt
  1999 - 1605 kt (-42%)
- NECD ceiling for 2010 - 1167 kt (-58% on 1990)
- Road transport accounts for 50% NOx emissions
  In London, road transport accounts for 75%
- Road transport NOx emissions expected to reduce by 74% between 1990 and 2010

UK annual mean urban background NO_2 concentrations $\mu g/m^3$

	1999	2005	2010
London (Bloomsbury)	67	52	46
Edinburgh	42	34	31
Cardiff	33	29	25
Belfast	35	34	25

UK annual mean roadside NO_2 concentrations $\mu g/m^3$

	1999	2005	2010
London (Marylebone)	91	55	48
Glasgow	69	50	42
Bristol	55	42	36

Figure 5.x
Estimated annual mean background nitrogen dioxide concentration, for base years 1996 to 1999 (ugm–3). Ref NETCEN 20/09/2000 /naqs3/nox1998naei/UK1NO219961

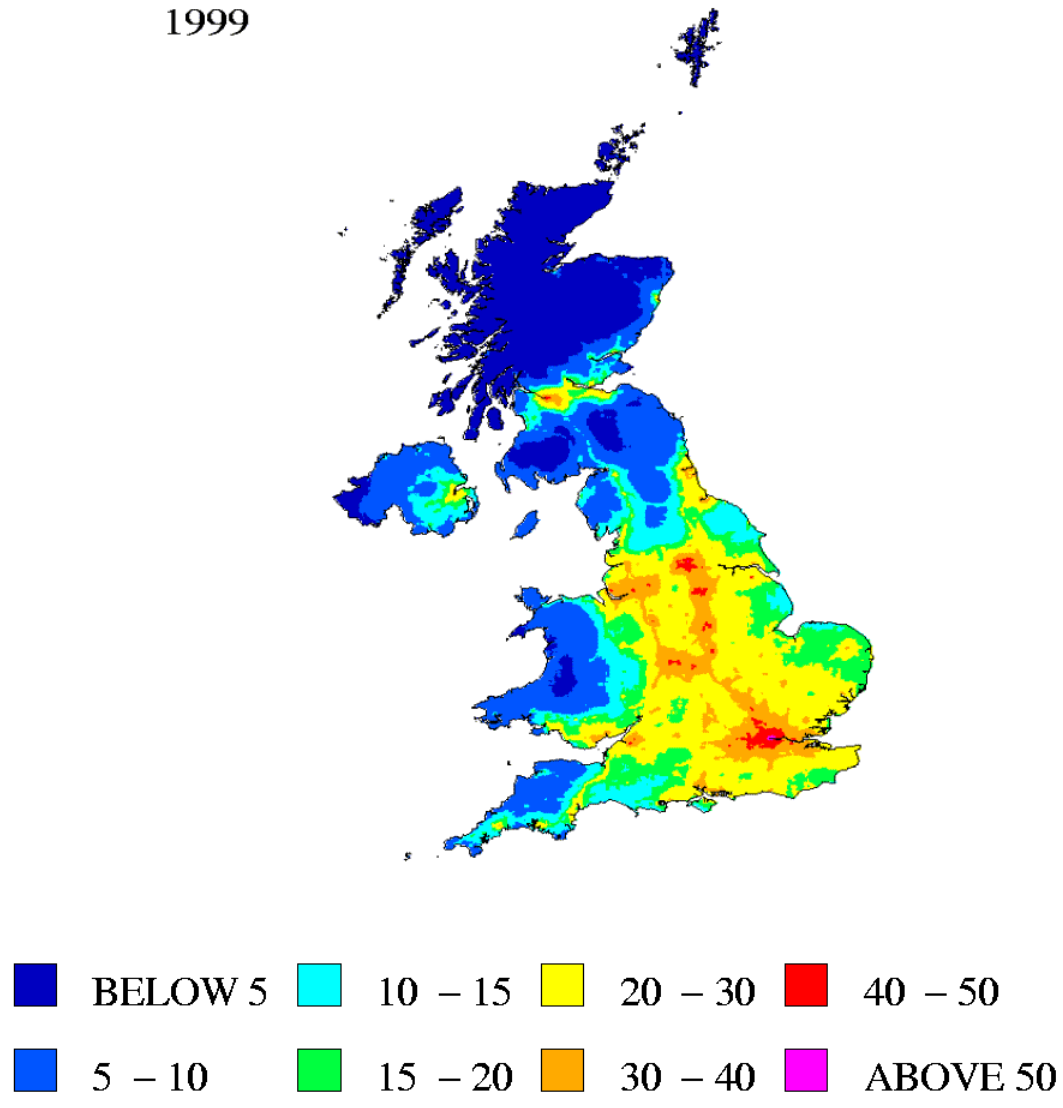


Figure 5.x.
Major urban roads, estimated annual mean roadside NO2 concentration,
for base years 1996 to 1999 (ugm-3), Ref NETCEN 28/09/2000 census_loca98

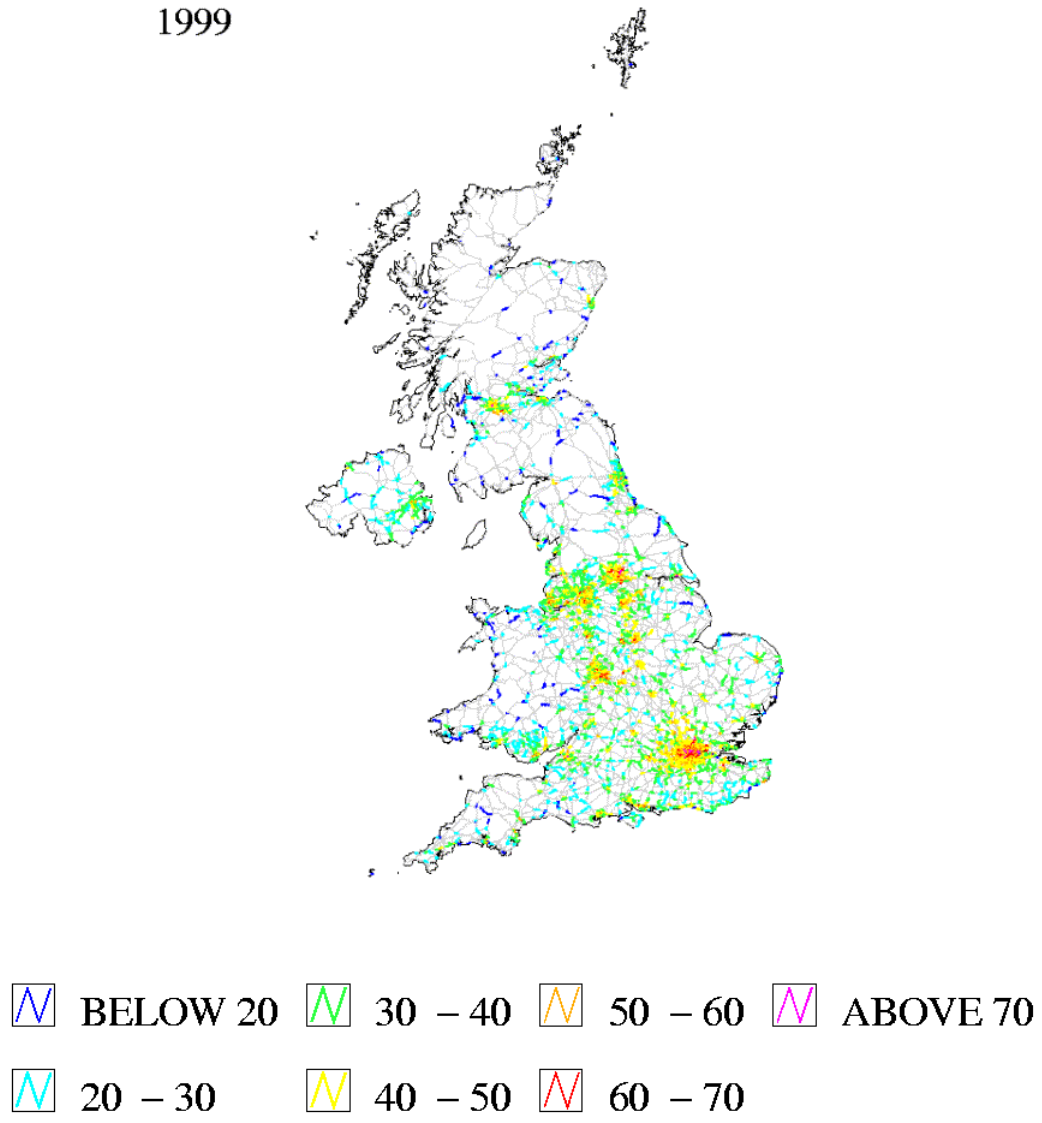


Figure 5.x
Estimated annual mean background nitrogen dioxide concentration, 2010 baseline scenario (ugm-3). Ref NETCEN 07/03/2001 /naqs3/nox1998naei/

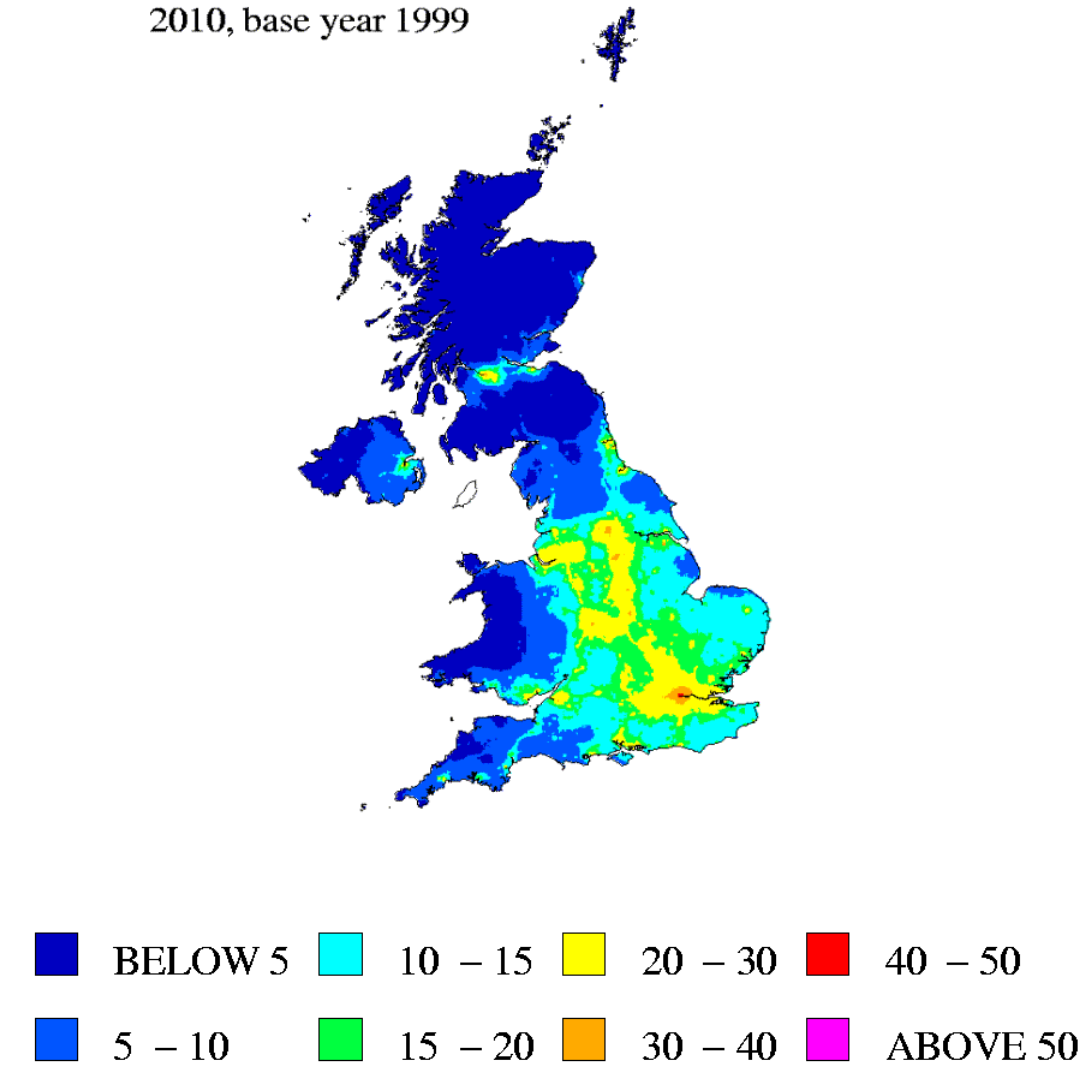
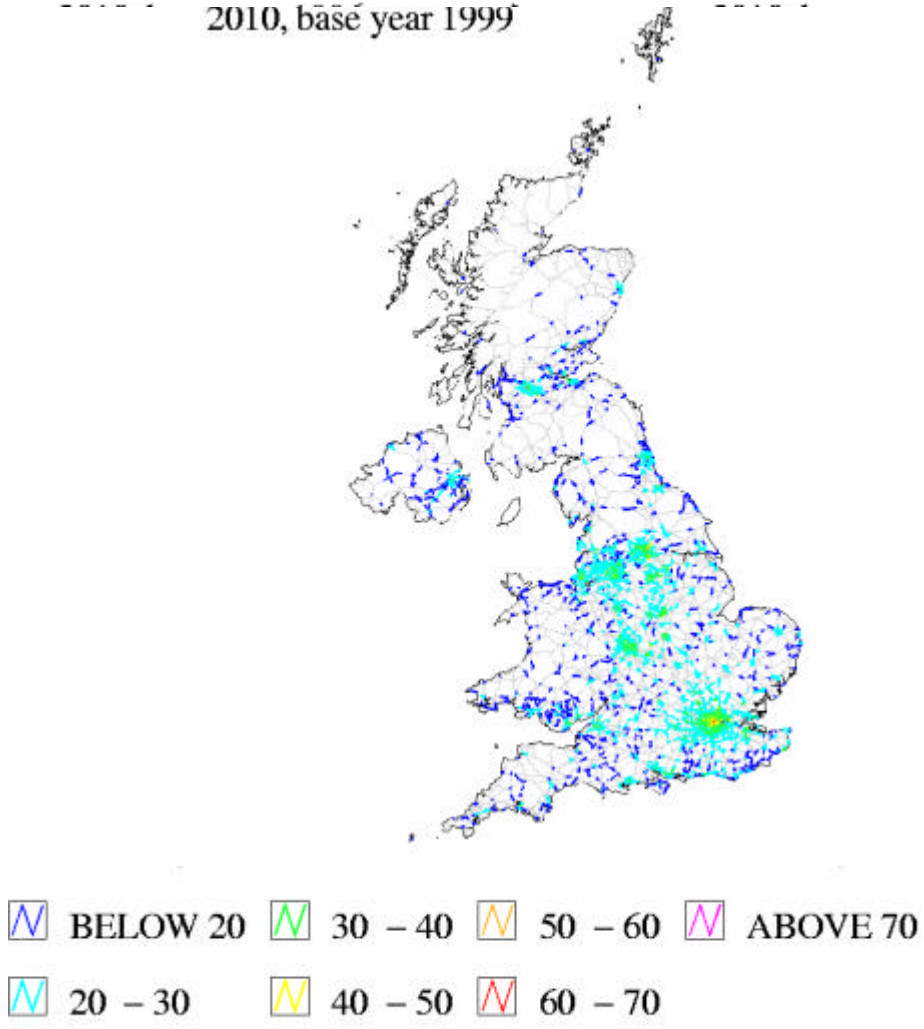


Figure 5.8.
Major urban roads, estimated annual mean roadside NO2 concentration,
for 2010 baseline scenario (ugm-3), Ref NETCEN 07/03/2001 census_locs98



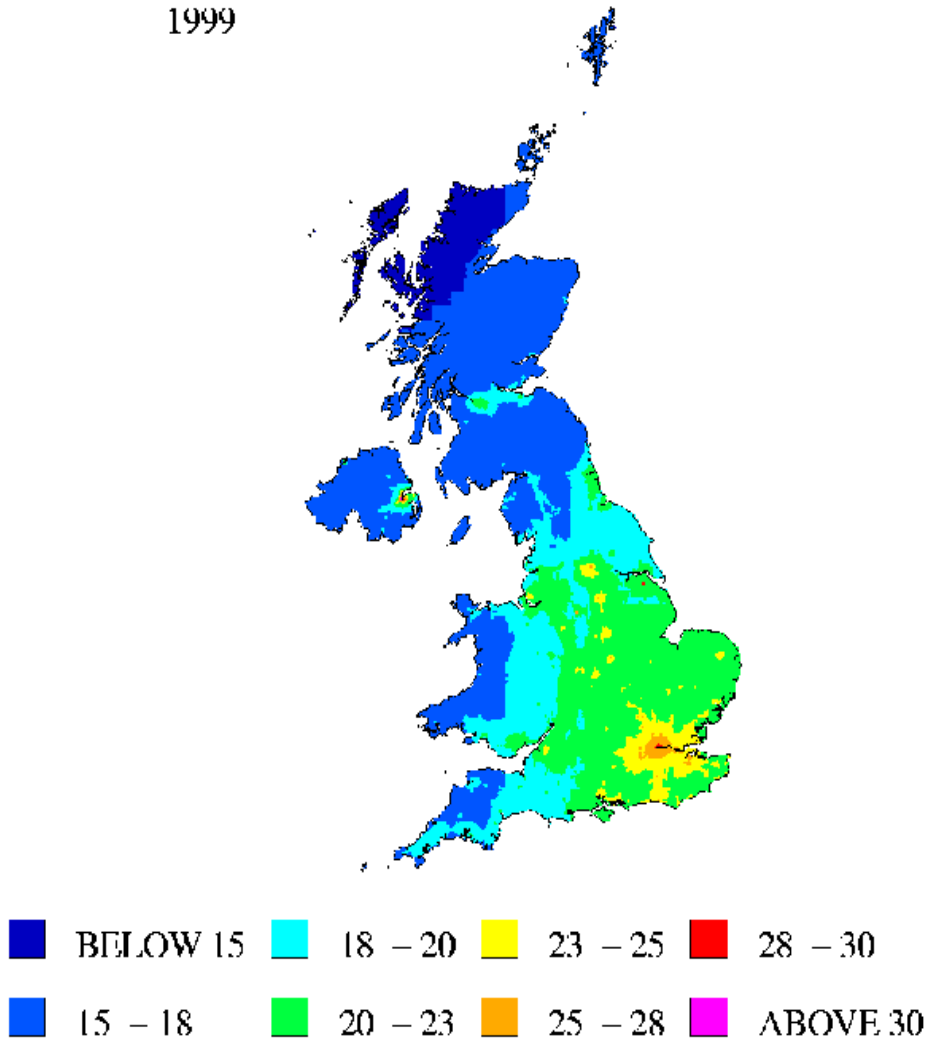
PARTICLES (PM_{10}) ASSESSMENT OF FUTURE LEVELS

- EU limit value and National Strategy target annual mean 40µg/m^3 for 2005
- Indicative EU limit value and National Strategy target annual mean 20µg/m^3 for 2010 (except London - 23-25µg/m^3 for 2010)
- 2001 Strategy review assessed future levels of PM10 in 2010 using data from national monitoring network and range of modelling studies

PARTICLES (PM_{10}) ASSESSMENT OF FUTURE LEVELS

- Modelling concentrations in 2010 based on 1999 and 1996 meteorology
- Business as usual - present and planned policy measures
- Illustrative package of potential new policy measures across industry and transport sectors

Figure 6.3
Estimated annual mean background PM10 concentration, for base years
1996 to 1999 (ugm-3, gravimetric). Ref NETCEN 25/09/2000 /naqs3/pm101998naei



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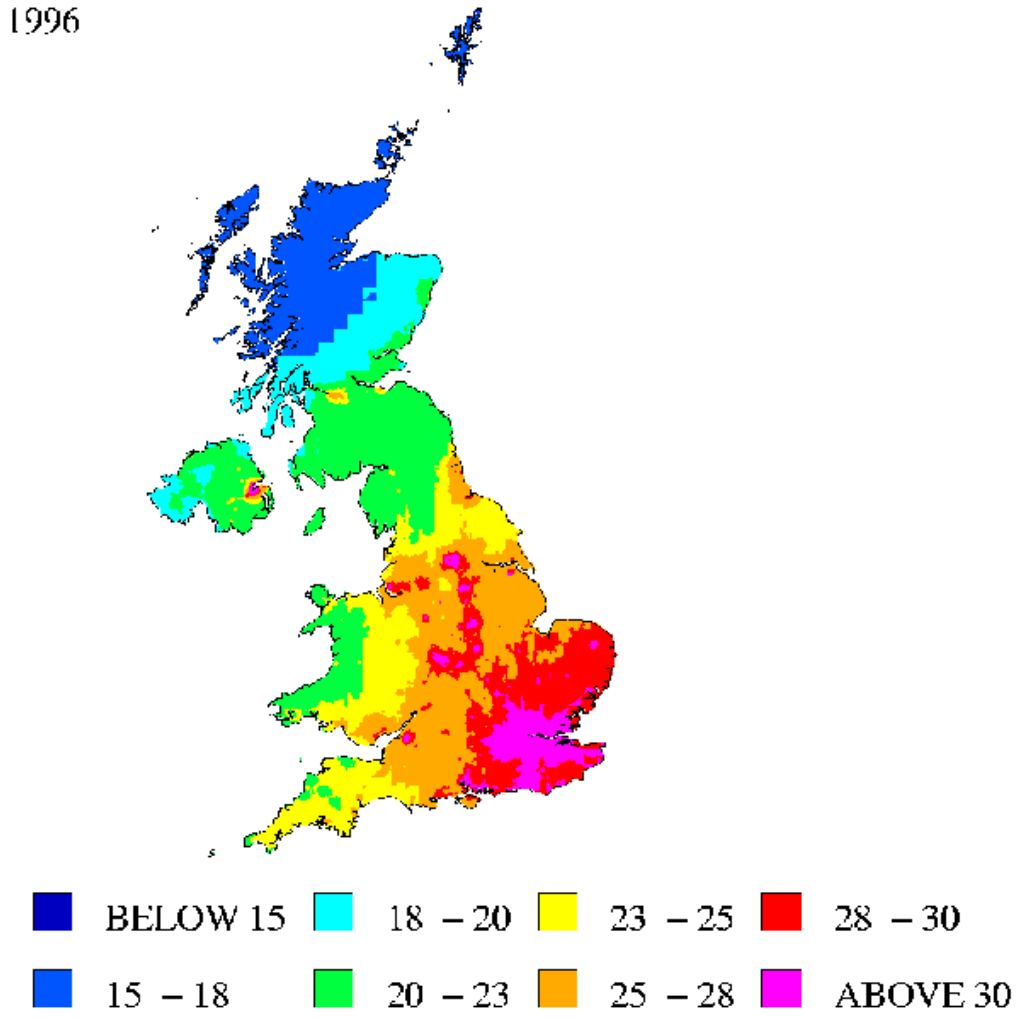
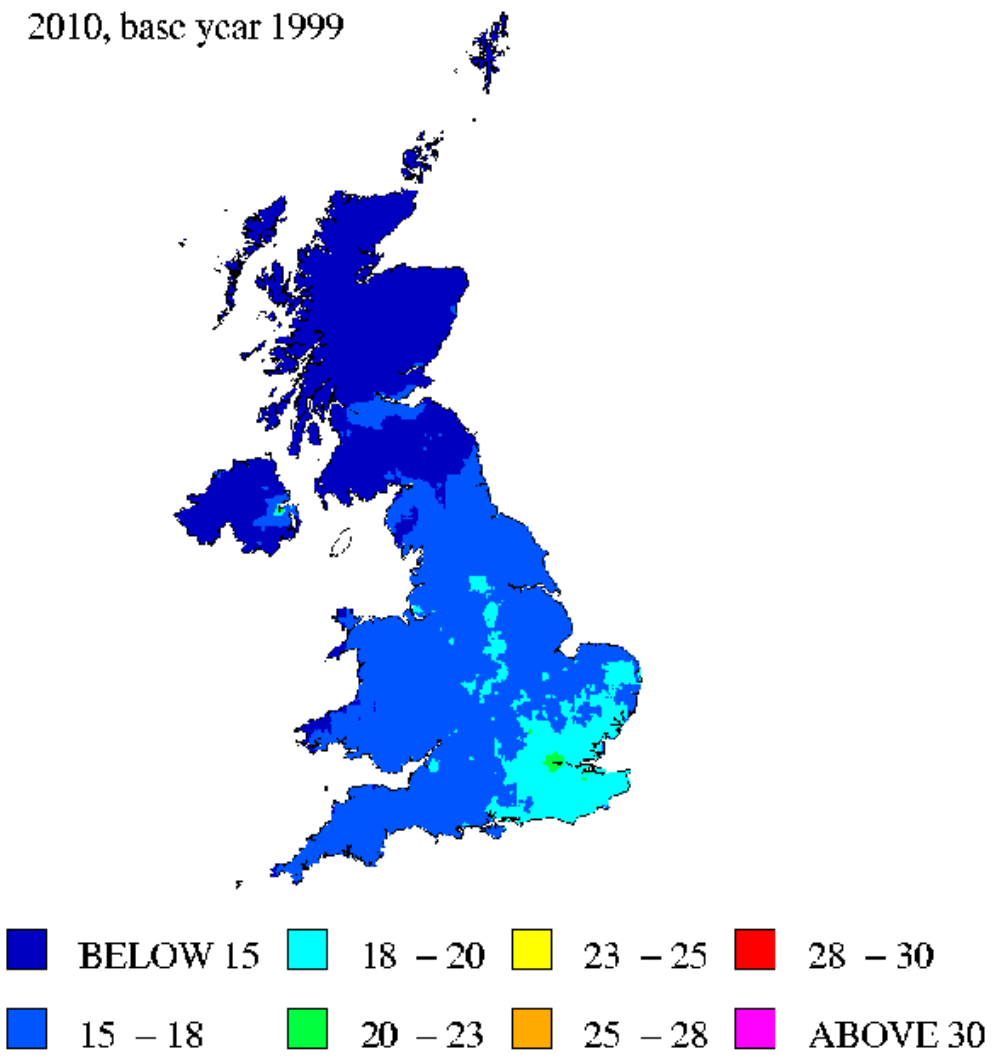


Figure 6.7
Estimated annual mean background PM10 concentration, for 2010 baseline scenario (ugm-3, gravimetric). Ref NETCEN 07/03/2001 /haqs3/pm101998naei



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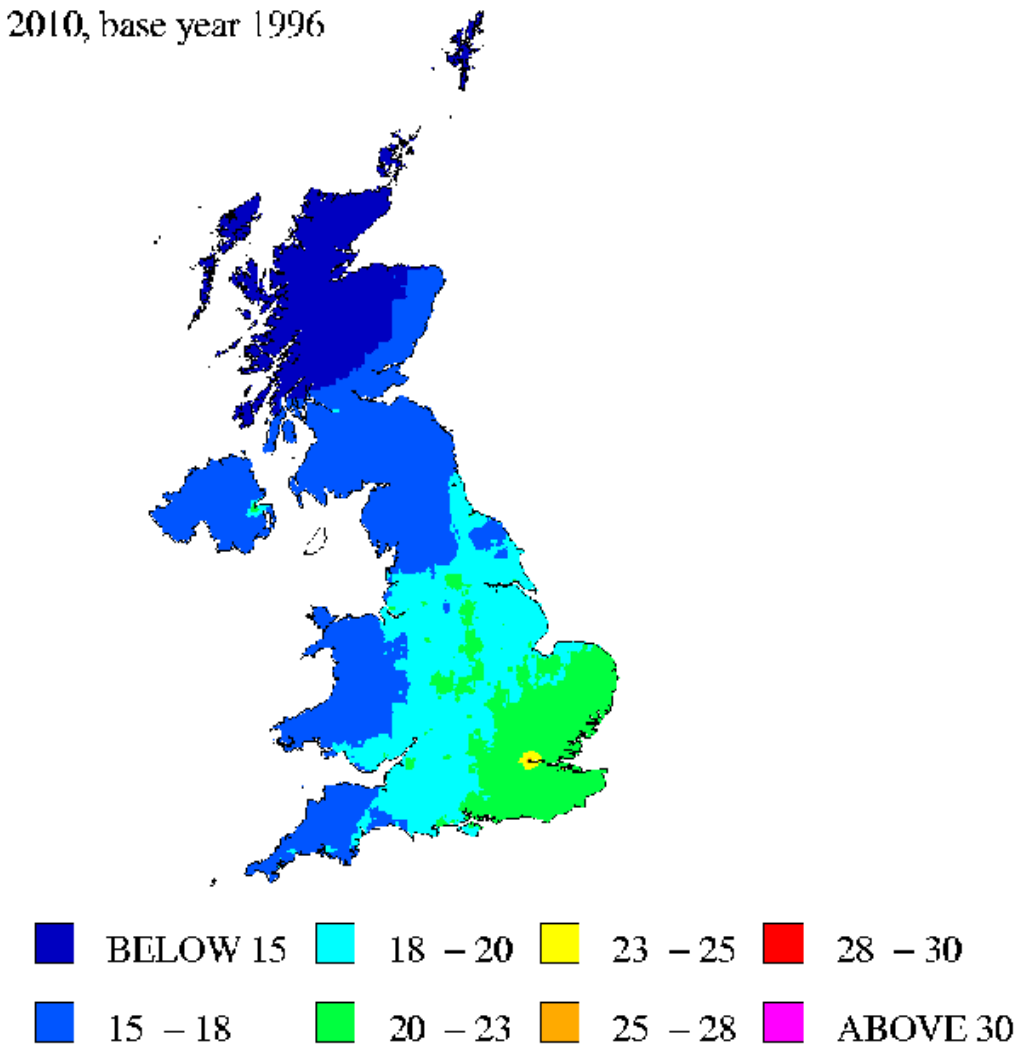
Estimated annual mean background PM10 concentration, for 2010 baseline scenario (ugm-3, gravimetric). Ref NETCEN 07/03/2001 /naqs3/pm101998naei



PARTICLES (PM_{10}) ASSESSMENT OF FUTURE LEVELS

- Illustrative package of potential new policy measures across industry and transport sectors would reduce urban background annual mean levels in 2010 generally to around 20µg/m^3, the indicative EU limit value
- In London, urban background levels in 2010 would still be well above the limit value

Projected annual mean PM_{10} concentrations 2010 from base years 1996 and 1999 (μgm^{-3}, gravimetric) for the baseline scenario and new measures scenario

	projected PM_{10} 2010 Baseline		Projected PM10 2010 New measures	
Base year	1996	1999	1996	1999
London Bloomsbury	24.4	21.6	22.5	19.9
Birmingham Centre	21.3	18.5	20.1	17.5
Cardiff Centre	21.9	21.4	20.4	19.5
Edinburgh Centre	17.5	16.1	16.8	15.5
Belfast Centre	20.8	20.4	19.1	18.4
Liverpool Centre	21.8	20.5	20.6	19.2
Rochester	21.6	17.2	20.8	16.9
Newcastle Centre	20.3	16.8	19.2	16.1
Manchester Piccadilly	21.5	19.7	20.2	18.4
Bristol Centre	21.5	20.3	20.3	18.9
Haringey Roadside		20.9		19.4
Glasgow Roadside		18.6		17.7
Marylebone Road		27.7		24.3
Camden Roadside		23.3		21.1
Sutton Roadide		19.6		18.5
Bury Roadside		21.3		19.8

Number of Roads Exceeding the indicative EU Stage 2 limit Value (20ug/m^3) in **2010**, with new policy measures and 'business as usual' baseline.

Area	Year with typical meteorology (1999 meteorology)		Year with meteorology of high European influence or (1996 meteorology)	
	With new measures	Baseline	With new measures	Baseline
Scotland	5	7	6	10
Wales	0	3	11	39
Northern Ireland	7	11	10	17
Inner London	751	760	760	760
Outer London	431	770	787	787
Rest of England	175	892	2425	3648
Total	**1369**	**2443**	**3999**	**5261**

SUMMARY
NITROGEN DIOXIDE 2010

- Existing policies expected to deliver annual mean limit value of 40μg/m^3 by 2010 in background locations except London
- 170 road links will be above the limit value in 2010 with existing policies. Over 70% of these are in London , remainder in other major urban areas

SUMMARY- NITROGEN DIOXIDE contd

- It is likely that the UK will have to produce an action plan for reducing NO2 in some areas
- Local measures may well be more effective than national ones
- LAQM will play an important role in formulating this plan

SUMMARY
PARTICLES (PM_{10}) 2010

- Package of potential new policy measures would reduce background annual mean levels in 2010 (with 1999 meteorology) generally to around 20μg/m^3, the indicative EU limit value
- In London, urban background levels in 2010 would still be well above the limit value
- Between 1369 and 3999 UK road links above limit value in 2010 with new measures