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STATISTICAL RELEASE

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UK EMISSIONS OF AIR POLLUTANTS – 2008 ADDITIONAL RESULTS

Defra today publish additional 2008 results from the National Atmospheric Emissions Inventory (NAEI) for UK air pollutants. Emissions of sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds (NMVOCs) and ammonia were covered in a separate National Statistics release on 17 December 2009, and are also presented here.

HEADLINE RESULTS

- There has been a continuation of the long term trend of a reduction in emissions of the majority of the pollutants in the inventory.
- Emissions of all pollutants covered in the UK Air Quality Strategy and their precursors have fallen between 2007 and 2008.
- Emissions of metals have been relatively stable between 2007 and 2008, with both small increases and decreases, with the exception of nickel, which has risen by 18 per cent.
- There has been a decline in emissions of most persistent organic pollutants between 2007 and 2008, although dioxins and furans have risen by 6 per cent.

UK AIR QUALITY STRATEGY

The UK Air Quality Strategy contains policies for the assessment and management of air quality and implementation of European Union (EU) and international agreements. The pollutants covered are benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen oxides, ozone, particulates (PM₁₀ and PM_{2.5}), polycyclic aromatic hydrocarbons and sulphur dioxide.

Table 1 below shows 2007 and 2008 emissions of 9 of the pollutants covered by the UK Air Quality Strategy. Results do not include ozone, which is created by reactions in the atmosphere. PM_{2.5} figures were calculated using PM₁₀ emissions and an estimated size distribution. For all pollutants there has been a decrease in emissions between 2007 and 2008.

Table 1: Emissions of air pollutants covered by the UK Air Quality Strategy

	Units	2007	2008	Percentage change 2007 to 2008
Sulphur dioxide	kt	595	512	-13.9%
Nitrogen oxides	kt	1,557	1,403	-9.9%
Particulates (PM ₁₀)	kt	137	133	-2.9%
Particulates (PM _{2.5})	kt	84	81	-3.7%
Carbon monoxide	kt	3,045	2,822	-7.3%
Benzene	kt	21	20	-3.6%
1,3-Butadiene	kt	3	3	-10.5%
Lead	t	72	67	-6.6%
Polycyclic aromatic hydrocarbons (PAHs)	t	1,268	1,216	-4.1%

PERFORMANCE AGAINST EUROPEAN UNION (EU) TARGETS

The National Emissions Ceiling Directive (NECD) sets ceilings for each EU Member State for emissions of ammonia, nitrogen oxides, sulphur dioxide and volatile organic compounds (VOCs). Total UK emissions of these pollutants were presented in a separate National Statistics release, "UK emissions of air pollutants – 2008 results", published on 17 December 2009. They are also presented in Table 2.

EMISSIONS OF ALL AIR POLLUTANTS

Emissions totals for pollutants included in the UK Atmospheric Emissions Inventory (excluding greenhouse gases) are summarised in Table 2. Historical data have been revised in light of improvements to base data used in the calculations and due to new intelligence regarding the fuels used by particular sites.

Table 2: UK air pollutant emissions: 1970 - 2008

	Units	1970	1980	1990	2000	2004	2005	2006	2007	2008	% change 1990 to 2008
Pollutants covered by the UK Air Quality Strategy (AQS)											
Sulphur dioxide	kt	6,365	4,781	3,715	1,226	813	687	669	595	512	-86%
Nitrogen oxides	kt	2,983	2,576	2,749	1,877	1,708	1,682	1,654	1,557	1,403	-49%
Particulates (PM ₁₀)	kt	492	328	281	172	141	138	139	137	133	-53%
Particulates (PM _{2.5})	kt	238	173	160	103	87	86	86	84	81	-49%
Carbon monoxide	kt	9,782	8,280	9,014	5,645	3,868	3,474	3,264	3,045	2,822	-69%
Benzene	kt	34	31	39	25	22	22	21	21	20	-48%
1,3-Butadiene	kt	8	11	15	7	4	4	4	3	3	-79%
Lead	t	7,479	8,298	2,890	150	118	109	82	72	67	-98%
Polycyclic aromatic hydrocarbons (PAHs)	t	1,973	2,259	7,766	1,846	1,371	1,314	1,289	1,268	1,216	-84%
Metals not covered by the UK AQS											
Arsenic	t	79	54	46	20	14	14	13	13	13	-71%
Cadmium	t	36	26	23	6	3	4	4	3	3	-88%
Chromium	t	240	183	159	73	38	36	33	29	29	-82%
Copper	t	217	159	143	81	65	61	59	58	60	-58%
Mercury	t	63	43	38	8	6	7	7	7	6	-84%
Nickel	t	888	485	345	105	71	72	77	83	99	-71%
Selenium	t	94	90	82	38	41	43	38	35	36	-56%
Zinc	t	1,489	1,014	988	621	477	424	288	289	277	-72%
Persistent Organic Pollutants (POPs) not covered by the UK AQS											
gamma HCH	t			99	33	17	14	13	11	10	-90%
PCP	t			751	605	476	451	427	404	383	-49%
HCB	kg			3,170	82	94	93	92	91	91	-97%
PCB	kg			6,698	1,403	1,185	1,124	1,073	1,036	998	-85%
Dioxins and furans	g I-TEQ			1,195	267	268	237	222	224	236	-80%
Other pollutants not covered by the UK AQS											
Non-methane volatile organic compounds	kt		2,056	2,569	1,488	1,128	1,070	1,029	1,012	942	-63%
Ammonia	kt			366	330	311	305	305	295	282	-23%
Hydrogen chloride	kt	333	306	270	83	28	19	17	15	12	-96%
Hydrogen fluoride	kt	14	11	10	4	5	5	5	4	4	-64%

Detailed data tables for these pollutants, together with many other environmental statistics, may be found on the Defra web site at:

- <http://www.defra.gov.uk/evidence/statistics/environment/index.htm>

Notes for Editors

1. The 1990-2008 figures in this Statistics Release are from the National Atmospheric Emissions Inventory for 1970-2008, produced for Defra and the Devolved Administrations by AEA Energy & Environment. Additional results will be released as they become available, including a full report published towards the end of the year. For further information on the Inventory see the [NAEI web site](#).
2. There are uncertainties associated with all estimates of pollutant emissions. However, although for any given year considerable uncertainties may surround the emission estimates, it should be noted that trends over time are likely to be more reliable.
3. Results for greenhouse gases, also covered in the NAEI, are published by Department of Energy and Climate Change (DECC) in a separate National Statistics release. For further details visit the DECC website at:
www.decc.gov.uk/en/content/cms/statistics/climate_change/climate_change.aspx

A National Statistics publication

National Statistics are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure they meet customer needs.