Current state of the environment and trends for air - SCOTLAND		
SEA Sub-topic	**Current state**	**Trends**
Overall	• Overall air quality in Scotland is generally good but further improvements are needed to reduce the adverse effects caused by air pollution in some urban and rural areas. • There are 'pollution hotspots' in Scotland where Air Quality Management Areas (AQMAs) have been declared.	• With a reduction in large-scale industry, the influence of transport and other non-industrial sources continue to be significant sources of air pollution. • The number of AQMAs in Scotland is set to rise.
Ground-level ozone	• The target value for the 8 hour running mean objective was exceeded on more than ten days at two of the 11 sites, and equalled at one. • Rural sites in Scotland generally experience higher annual average concentrations than urban areas due to prevailing wind conditions and long range transport of primary pollutants.	• There has been a small increase in rural background concentrations since 1987. • Urban background levels increased until 2004, possibly due to a reduction in nitrogen dioxide, which can destroy ground level ozone. • Concentrations have seen a levelling off between 2004 and 2009 .
Oxides of Nitrogen	• Six out of 55 sites exceeded the hourly mean objective of 200µg.m-3 on more than the permitted 18times. Thirteen sites had annual average concentrations above the limit value of 40µg.m-3. • AQMAs have been declared in some areas..	• Although concentrations of total NOx have declined over the years, concentrations in NO_2 have not shown the same decrease.
Particulates[1]	• PM_{10} – 16 sites out of 49 exceeded the annual average objective of 18 $\mu g.m^{-3}$ and a further six equalled this. • Seven of these 22 sites also exceeded the daily objective of 50 $\mu g.m^{-3}$ more than the objective of seven times. • No sites exceeded the European objectives. • A new limit value for $PM_{2.5}$ is introduced in the Air Quality Standards (Scotland) Regulations 2010. Discussions are in progress with Scottish Government and Defra as to how to take this forward.	• Although there has been a slight decline in concentrations recorded since 2004, localised sources caused by road works, construction and/or short term changes to traffic flows and densities have affected this. • An increase in the uptake of small-scale biomass installations could also provide new localised sources.

Current state of the environment and trends for air - SCOTLAND		
SEA Sub-topic	**Current state**	**Trends**
Sulphur Dioxide	• Air quality problems relating to SO_2 tend to be only evident near industrial processors due to the low sulphur-content of most non-industrial fuels. • The AQS objective for the 15 minute average was exceeded more than the permitted 35 times in 2009 at one site in Grangemouth. None of the other 14 sites exceeded the objectives for 15 minute, 1 hour or 24 hour averages. • An AQMA has been declared for SO_2 in Scotland.	• Emissions from large industrial sources have fallen in the UK since 1970. • A decrease in domestic coal use has led to significant reduction in emissions of SO_2.
Volatile organic compounds (VOCs, including benzene & 1,3-butadiene)	• Benzene and 1, 3-butadiene are only monitored at two sites in Scotland. Both sites continue to meet the objectives for these pollutants.	• Emissions of VOCs are showing a downward trend. UK emissions have fallen steadily since 1990, mainly due to the fitting of catalytic converters to vehicles. • Emissions from the domestic and industrial sectors are also falling.
Ammonia	• There has been little or no change in ammonia concentrations over the last decade. Across the UK, 60% of habitat areas sensitive to eutrophication exceed the critical load for nutrient nitrogen.	• Reducing ammonia is a high priority for the protection of habitats and vegetation.

Sources:
Air quality in Scotland Website (www.scottishairquality.co.uk)
SEPA, 2006. State of the Environment Report for Scotland, Air Quality Standards (Scotland) Regulations 2010.
SEPA, 2008. National Air Quality Report 2007

Notes:
[1]. Standards and objectives in Scotland are more stringent in comparison to the ones set an EU level. In particular for PM_{10}, Scotland's aspirational annual mean target is $18ug.m^{-3}$ by 2010 whilst in the rest of the EU the annual mean objective is $40ug.m^{-3}$. In addition Scotland intends to set a more stringent objective for $PM_{2.5}$