Current environmental baseline and trends for air – NORTHERN IRELAND		
Sub-topic	**Current environmental baseline**	**Trends**
Overall	• A number of pollutants continue to exceed air quality objectives in some parts of Northern Ireland. • A number of AQMAs have been declared in Northern Ireland. The majority of these were for PM_{10} or NO_2 from domestic fuel combustion or road transport.	• Air quality in Northern Ireland has shown substantial improvement in recent years. • Levels of pollutants associated with coal and oil combustion have declined over the last decade. • There is a general shift from single sources to linear/ nodal sources including transport.
Ground-level ozone	• During 2009 no monitoring sites exceeded the target value of the AQS objective on more than the permitted ten days.	• Unlike some other pollutants, levels of ground-level ozone in Northern Ireland do not appear to be decreasing, but remain variable from year to year, depending on weather conditions. Ozone exceedances therefore remain a possibility; the most recent occurred in 2008 in Derry.
Oxides of Nitrogen	• Four of 18 roadside monitoring stations exceeded the AQS objective for the annual mean (40 $\mu g\ m^{-3}$) in 2009.	• Emissions from large industrial sources have fallen. • Emissions from transport and fossil fuel energy production have increased [NB: Due to the Euro Standard petrol engines, the actual level of nitrogen dioxide emitted from each vehicle has reduced, however, reductions in the impact on air quality from improvements in engine efficiencies have been mainly counteracted by the increase in private vehicle usage].
Particulates	• None of 29 roadside stations exceeded both the AQS objective of 40 $\mu g.m^{-3}$ and 50 $\mu g.m^{-3}$ for the 24-hour mean on more than the permitted 35 occasions for PM_{10}.in 2009. • 2007 was the first full year in which $PM_{2.5}$ was monitored in Northern Ireland. $PM_{2.5}$ is now monitored at 4 sites. All four sites were below the 25 $\mu g.m^{-3}$ target to be achieved by 2020.	• There has been a general reduction in urban background PM_{10} concentrations since 1990. • Until recently, Northern Ireland's ambient smoke levels remained considerably higher than those in most other UK regions. Although there is still a lot of solid fuel being burned in many areas, increasing availability of natural gas since 2000 has lead to a decrease in levels. • It is not clear whether the exposure reduction target of 20% between 2010 and 2020 will be met for $PM_{2.5}$ in Belfast.
Sulphur dioxide	• All monitoring sites in Northern Ireland met the requirements of the AQS for 15-minute, 1-hour and 24-hour mean SO_2 in 2007.	• Until recently, Northern Ireland's SO_2 levels remained considerably higher than those in most other UK regions. Although there is still a lot of solid fuel being burned in many areas, increasing availability of natural gas since 2000 and the introduction of Smoke Control Areas have lead to a decrease in levels.

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Volatile organic compounds (VOCs, including benzene & 1,3-butadiene)	• Benzene and 1, 3-butadiene were monitored at two sites in Belfast, but 1,3 butadiene is now no longer monitored. Benzene continues to meet the objectives.	• 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	• During 2002-2004, agriculture accounted for 93% of ammonia emissions in Northern Ireland, with emissions from cattle contributing the greatest part.	• It is expected that ammonia will be the main contributor to acidification, eutrophication and particulate matter in 2020.

Sources:
Air quality in Northern Ireland Website (http://www.airqualityni.co.uk)
NIEA, 2008. State of the Environment Report for Northern Ireland (Air & Climate Chapter)