



The UK Government and Devolved Administrations set out a strategy for sustainable development, *Securing The Future*, in 2005. Drawing on this framework and stakeholder feedback, we focus on the five themes which we think capture how the Gas and Electricity Markets Authority should contribute to the sustainability challenges of the 21st century.

The last theme is supporting improvement in all aspects of the environment. Beyond the climate change agenda, the gas and electricity industries affect the environment through other emissions and their impacts on our countryside and communities. We are committed to working with all stakeholders to ensure that we take these wider considerations into account in all of our decisions and provide advice where relevant.

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Indicator 16: Impacts of electricity generation

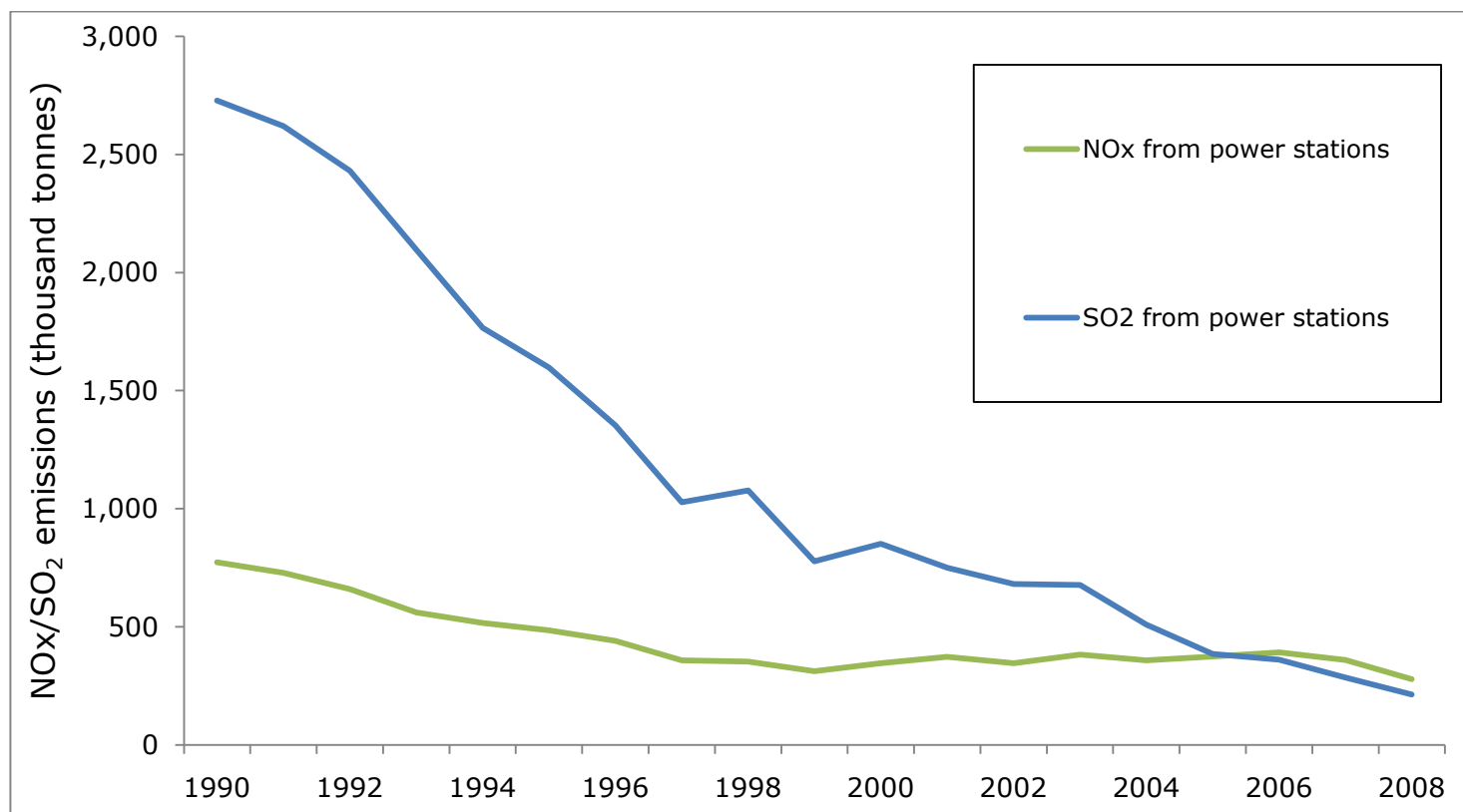


Figure 28 - NOx and SO2 emissions from power stations

Source: Defra

The Large Combustion Plant Directive (LCPD) of 2008 set out to reduce the levels of Nitrous oxides (NOx) and Sulphur dioxide (SO₂) that are released into the atmosphere. The LCPD sets emission limit values that normally require generators to fit Flue Gas Desulphurisation equipment or to use ultra low sulphur coal to reduce these emissions. The alternative for generators is to opt out of the Directive, an arrangement that allows them to run for limited hours until 2015, and then close. Several coal-fired and oil-fired power stations are due to be shut down in 2015 as a result.

Table 1 - Volume of radioactive wastes in stock (in cubic metres)

Source: NDA

Level of Waste	2001 Inventory	2004 Inventory	2006 Inventory	2007 Inventory	2008 inventory Estimate	2009 Inventory Estimate	Change
Low-level waste	14,700	20,900	28,200	196,000	242,000	281,000	39,000
Intermediate-level waste	75,400	82,500	90,200	92,500	96,200	100,000	3,800
High-level waste	1,960	1,890	1,890	1,730	1,700	1,720	20
Total	92,060	105,290	120,290	290,230	339,900	382,720	42,820

The Nuclear Decommissioning Authority (NDA) was set up in 2005 to take responsibility for the UK's civil nuclear liabilities, and their subsequent management. This table shows the figures that have been calculated from the actual stock of conditioned waste in 2007 and increased by the estimated annual waste arising thereafter.

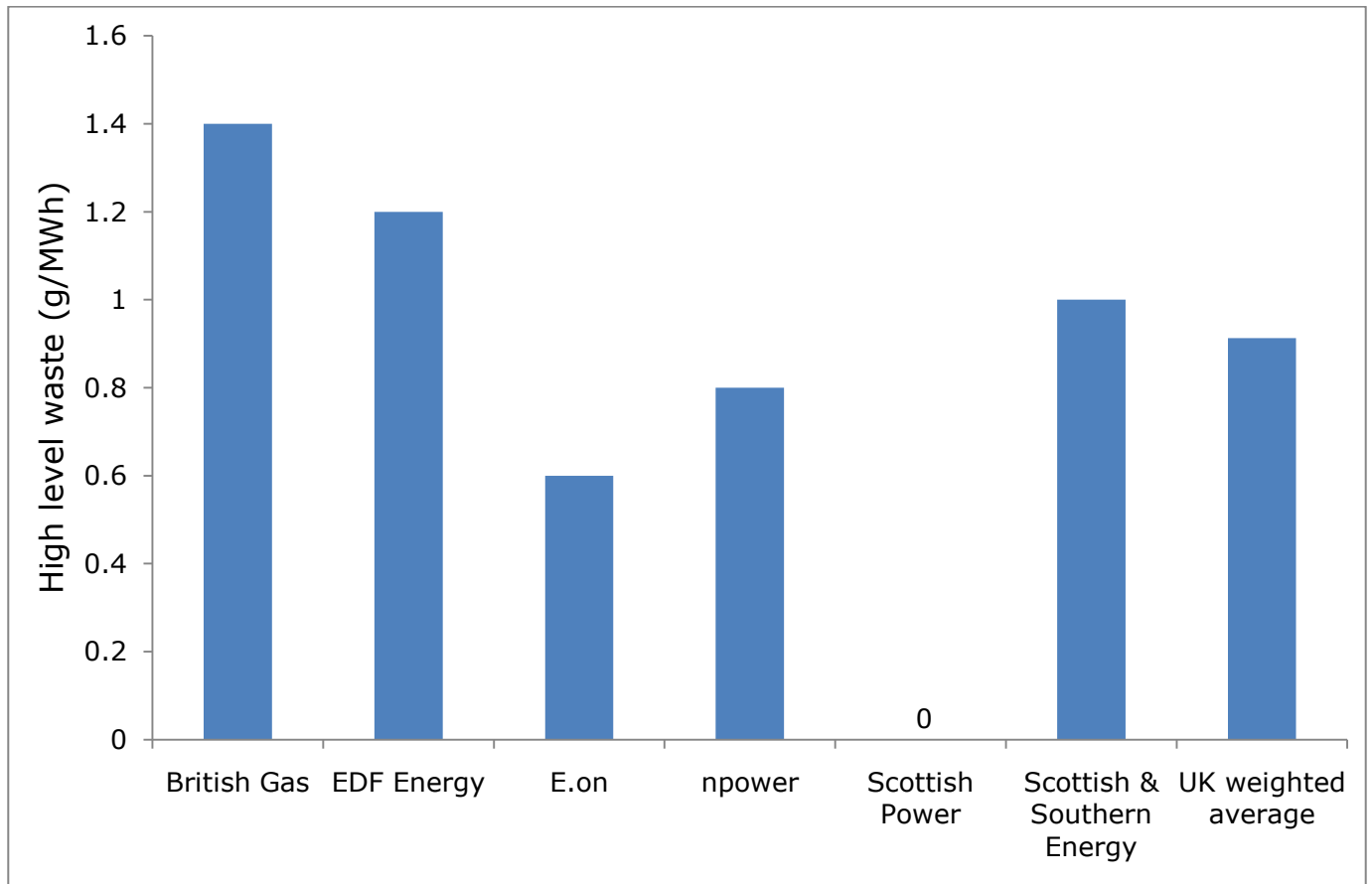


Figure 29 - High level nuclear waste from energy suppliers and the UK average

Source: electricityinfo.org

The chart above shows the proportion of high-level radioactive waste per unit of electricity supplied by each of the 'big six' suppliers, as well as a weighted average across the UK. This year the weighted average has fallen substantially, down from around 1.5 grams per mega-watt hour. The fall can be attributed to nuclear power stations being shut down permanently, or temporarily for maintenance, whilst the radioactive waste attributable to each supplier can vary year by year according to market activity.

Indicator 17: Impacts of electricity and gas networks

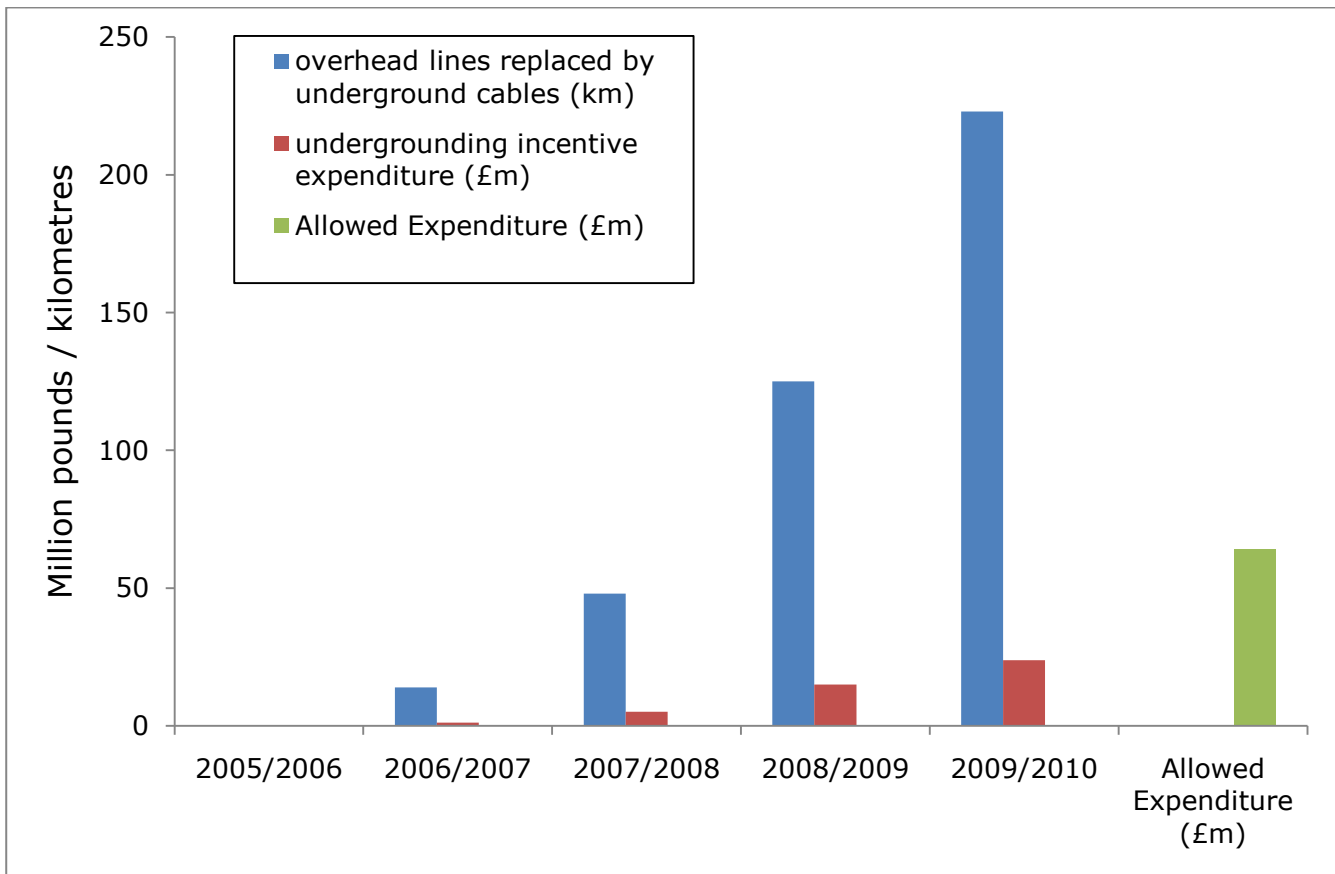


Figure 30 - Cumulative Electricity distribution visual amenity incentive

Source: Ofgem

Distribution network operators have spent almost £24 million out of an allowed £64 million on undergrounding 223 km of cable over the five year price control. The undergrounding displayed in this graph is within National Parks and Areas of Outstanding Natural Beauty and is incentivised by a policy in the regulatory settlement for electricity distribution networks (the fourth Distribution Price Control Review - DPCR4). The new 2010 – 2015 price control arrangements, DPCR5, have retained the incentive, which was introduced as a result of Ofgem’s duty to have regard to the purpose of conserving and enhancing the natural beauty of national parks and areas of outstanding natural beauty. There is some evidence that customers value visual amenity and are willing to pay for modest network undergrounding through their electricity bills.

Table 2 - Use of insulating oil in fluid-filled cables

Source: Ofgem

Network Type	Year	Fluid-filled cables in use (km)	Volume of fluid used to top-up cables (l)
Distribution	2005/2006	6,640	409,329
	2006/2007	6,600	451,939
	2007/2008	6,495	452,353
	2008/2009	6,475	372,303
	2009/2010	6,378	381,462
Transmission	2005/2006	979	50,000
	2006/2007	982	43,132
	2007/2008	972	27,528
	2008/2009	971	34,617
	2009/2010	939	26,519
Total	2005/2006	7,619	459,329
	2006/2007	7,582	495,071
	2007/2008	7,467	479,881
	2008/2009	7,446	406,920
	2009/2010	7,318	407,981

There has been a decrease in use of fluid-filled cables used by the three transmission companies. Total length has decreased in distribution companies, which are responsible for a far higher length of these cables. However, an increase was seen with one company. This was due to improved data and categorisation procedures. The overall decrease over the five year period is a good sign for as oil leakage can damage the environment when cables and joints fail.