Regulating for people, environment and growth

2014 evidence summary

September 2015

Regulation works

Our role is to apply the regulatory framework set by government. We seek to do this in a way that minimises the administrative costs of regulation on businesses and makes it as easy as possible for them to do the right thing.

A clear regulatory framework with agreed standards and targets has helped to drive major environmental and public health improvements over the last few decades. Regulation has played an important part in reducing emissions to air, discharges to water, the quantities of waste produced by businesses and the number of pollution incidents.

We are working to improve our approach and ensure that we continue to be a fair and proportionate regulator that works to protect people and the environment, supporting business and sustainable growth while targeting illegal operators and poor performers. We recognise that businesses trying to do the right thing require different interventions to those that are persistently or intentionally non-compliant.

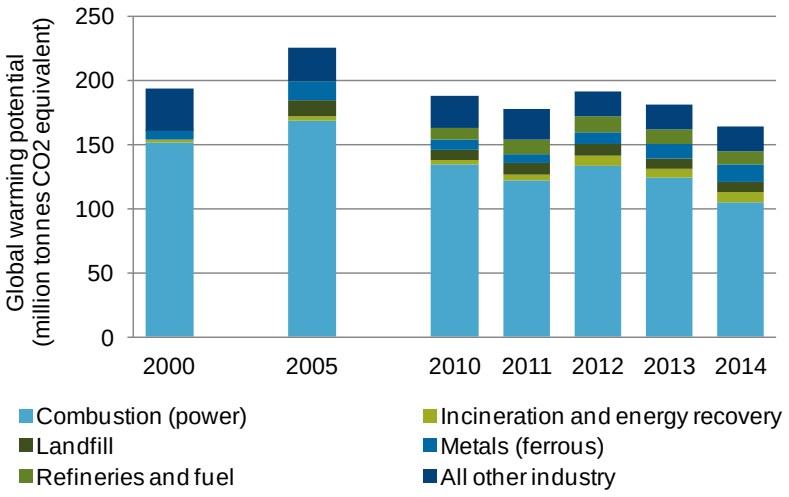
Reducing emissions to air

Emissions to air from the businesses we regulate continue to reduce.

Between 2000 and 2014:

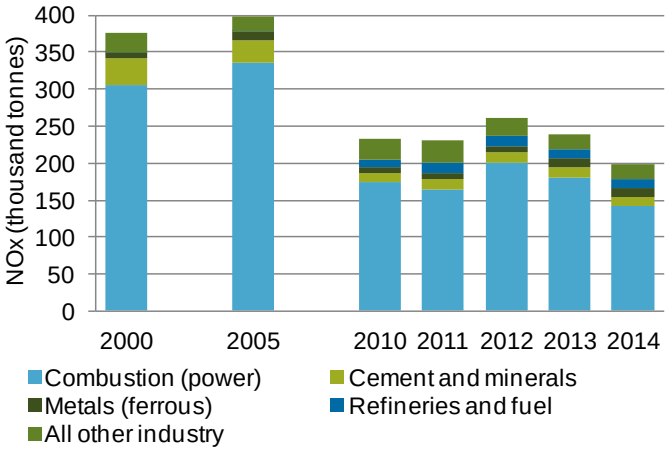
- emissions of greenhouse gases have reduced by 15%
- emissions of nitrogen oxides (NOx) have reduced by 47%
- emissions of sulphur oxides (SOx) have reduced by 83%
- emissions of fine particles (PM10) have reduced by 32%

Greenhouse gas emissions (as global warming potential) to air from sites with permits in England, 2000 to 2014



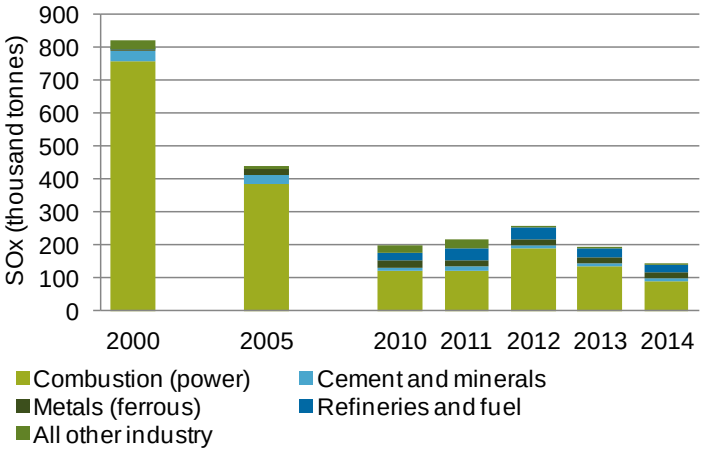
'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of greenhouse gases in 2014.

Nitrogen oxides (NOx) emissions to air from sites with permits in England, 2000 to 2014



'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of nitrogen oxides in 2014.

Sulphur oxides (SOx) emissions to air from sites with permits in England, 2000 to 2014

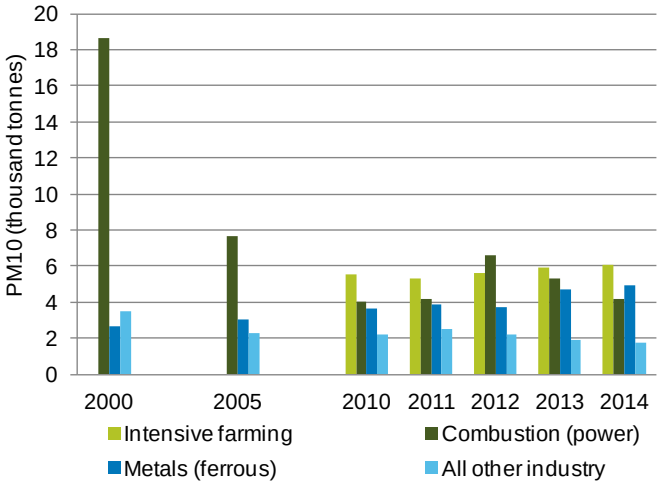


'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of sulphur oxides in 2014.

Greenhouse gas emissions from sites with permits were 9% lower in 2014 than in 2013, nitrogen oxide (NOx) emissions 16% lower, sulphur oxide (SOx) emissions 26% lower and fine particles (PM10) emissions 5% lower.

The combustion (power) sector is a major contributor to emissions of greenhouse gases, sulphur and nitrogen oxides and small particles. Fluctuations in the amount and type of fuel used by this sector tend to be reflected in the overall trends of these pollutants. The increase in emissions in 2012 was partly due to a cold winter increasing demand and partly due to the availability of cheap coal from the USA triggering an increase in the proportion of coal burnt in power stations. The regulatory framework facilitates market flexibility allowing operators to purchase different fuel mixes while maintaining an overall reduction in emissions over time.

Particulate matter (PM10) emissions to air from sites with permits in England, 2000 to 2014



Intensive farming started reporting estimated PM10 emissions to the Pollution Inventory in 2007.
'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of particulate matter in 2014.

There are a number of reasons for the reduction in emissions since 2012. Some coal and oil plants that opted out of the Large Combustion Plant Directive closed in 2013, and there were breakdowns and scheduled outages at 2 coal-fired plants in 2014. Increasing energy generating capacity from renewable sources has reduced the amount of energy produced from fossil fuels and the proportion of energy produced from gas compared with coal was higher in 2014 than in 2012 or 2013.

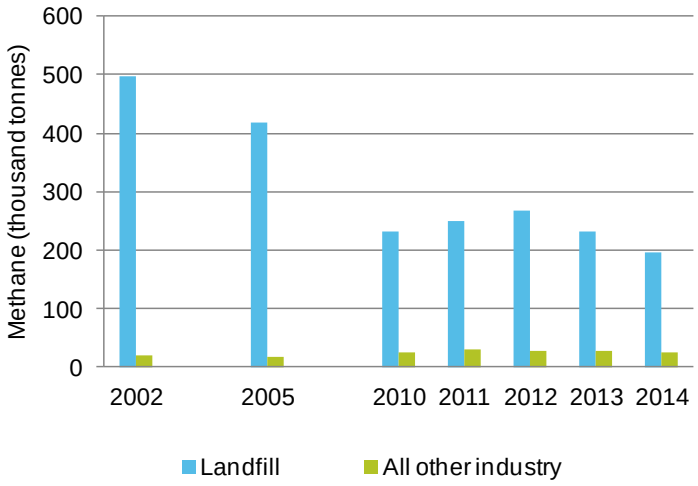
Emissions to air from the businesses we regulate contribute about 43% of total greenhouse gas emissions in England, 33% of NOx, 82% of SOx and 21% of PM10 emissions.[1]

[1] Based on 2012 (England) data from the National Atmospheric Emissions Inventory.

In 2014, the landfill sector reported 197,000 tonnes of methane emitted (88% of all methane reported from the sites we permit).[2] The sector releases about 10% of total methane emissions in the UK and about 35% of total methane from all UK landfill.[3] The sector's methane emissions decreased by 15% between 2013 and 2014 and by 60% since 2002.

Almost 900,000 tonnes of methane was collected and combusted in engines and flares at landfills in England in 2013. Of this 86% was burnt in engines to generate electricity.[4]

Methane emissions to air from sites with permits in England, 2002 to 2014



'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of methane in 2014.

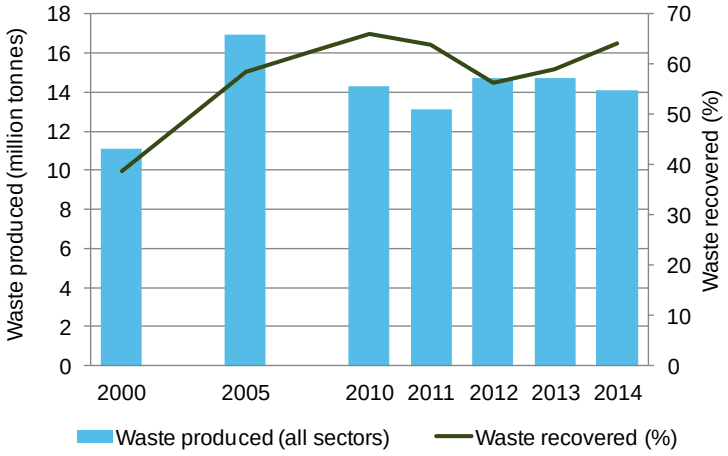
Businesses we permit are recovering more waste

In 2014, the sites we permit produced 14 million tonnes of waste.

Of this, 64% (9 million tonnes) was recovered, compared with 59% (8.7 million tonnes) in 2013 and 39% (4.3 million tonnes) in 2000.

For further information, see 'The changing picture of waste management' in the Regulating the waste industry 2014: evidence summary.

Waste produced and recovered by sites with permits in England, 2000 to 2014



Waste produced and recovered across the sectors is complex because of the varying growth and decline of sectors, introduction of new sectors and different categorisations of waste, for example some wastes being declassified as waste through quality protocols. Some of the increase in waste produced and the decline of recovery rates between 2011 and 2012 is related to the increased use of coal in the combustion sector in 2012 and consequently in the larger amount of ash produced.

In 2014 the sectors contributing the most waste were:

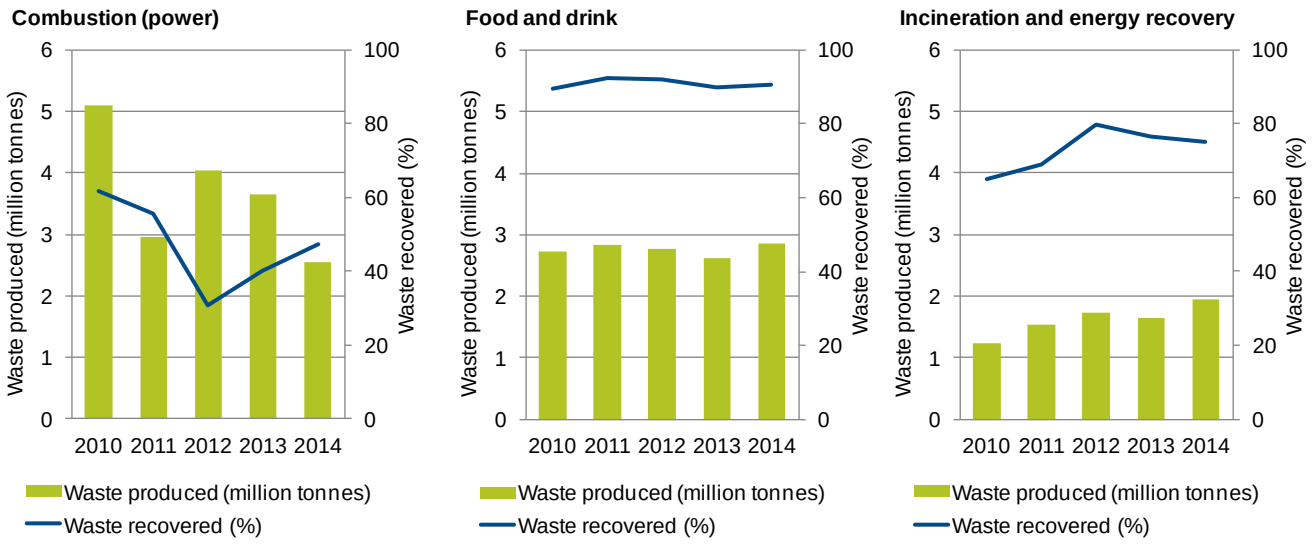
- food and drink (2.8 million tonnes, 20% of waste produced by all sectors)
- combustion (power) (2.5 million tonnes, 18%)
- incineration and energy recovery (1.9 million tonnes, 14%)

[2] As reported to the Pollution Inventory.
[3] Based on 2013 (UK) data from the National Atmospheric Emissions Inventory.
[4] Data from Ofgem.

The waste recovery rates in these sectors in 2014 were:

- food and drink, 91%
- combustion (power), 47%
- incineration and energy recovery, 75%

Waste produced and recovered by sites with permits: top 3 sectors in England, 2010 to 2014



Pollution incidents

Serious pollution incidents can harm people and the environment as well as damage businesses. A major incident can have a significant financial impact on a business in clean-up and enforcement costs. The Environment Agency spends about £12 million a year in time and materials responding to pollution incidents.

We classify pollution incidents according to their impact on the environment and people, from category 1 (the most serious) to category 4 (little or no impact). We investigate reported pollution incidents to limit their impact and, where appropriate, we take action against those responsible for the pollution. This section is about the most serious pollution incidents, categories 1 and 2.

Pollution incidents can affect air, land and water. We describe pollution incidents resulting from odour, noise, smoke and dust as amenity incidents because they affect the lives of people living in local communities.

The total number of serious pollution incidents decreased by 11% between 2013 and 2014. (There were 688 incidents in 2013 compared to 614 incidents in 2014). However the total number of serious pollution incidents is still higher than that recorded in 2012 (503).

We provide advice and guidance on pollution prevention to farmers and businesses to help them reduce the risk of causing environmental pollution and the costs of clean up. We work with others to help prevent and mitigate incidents when they happen. We have provided around £200,000 of essential pollution incident response equipment to fire and rescue services every year so they can protect the environment as part of their blue light incident response. This protects aquatic wildlife, drinking water supplies, bathing waters and the wider amenity value of rivers.

Serious pollution incidents: the top 5 sectors

There were 614 serious pollution incidents in 2014. The sectors causing the most incidents were:

1. farming: 97 incidents, 87 caused by non-permitted activities (of which 17 were category 1 incidents and 70 were category 2 incidents) and 10 caused by permitted intensive farms (all of which were category 2 incidents); 16% of the total number of serious pollution incidents

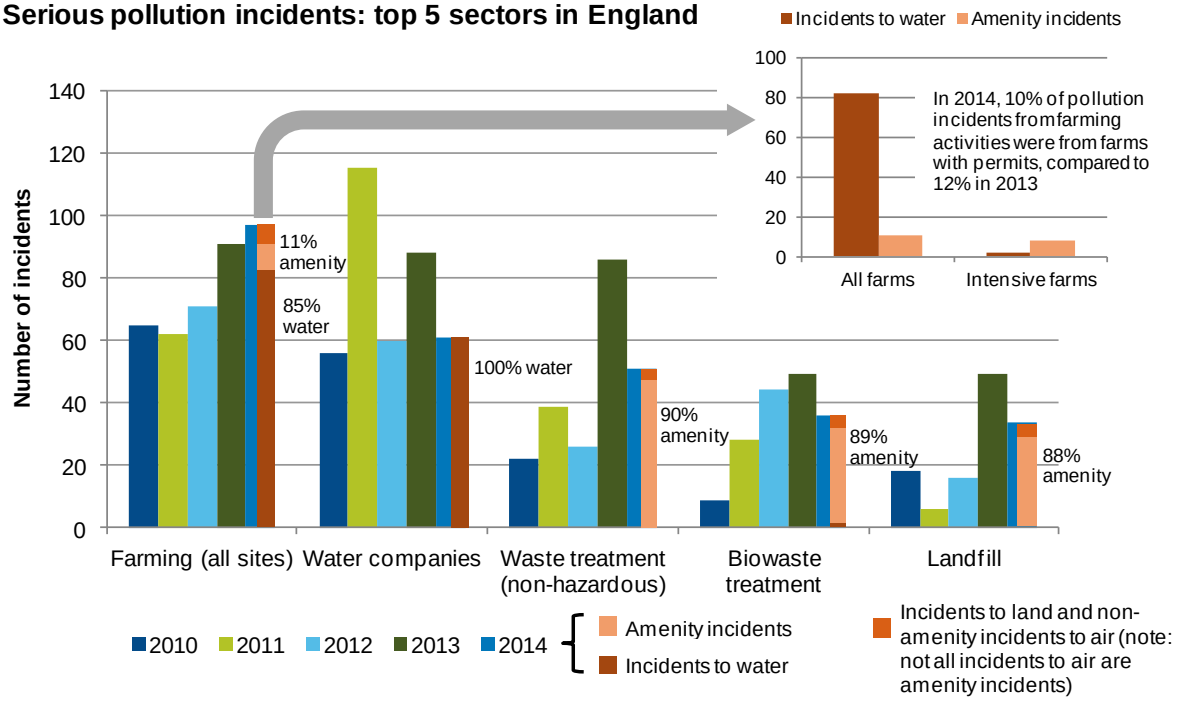
2. water companies: 61 incidents (of which 4 were category 1 incidents and 57 were category 2 incidents); 10% of the total

3. non-hazardous waste treatment facilities with permits: 51 incidents (of which 3 were category 1 incidents and 48 were category 2 incidents); 8% of the total

4. biowaste treatment facilities with permits: 36 incidents (of which 1 was a category 1 incident and 35 were category 2 incidents); 6% of the total

5. landfill facilities with permits: 34 incidents (of which 1 was a category 1 incident and 33 were category 2 incidents); 6% of the total

Serious pollution incidents: top 5 sectors in England



These top 5 sectors in 2014 were the same as in 2013. However, in 2014 each of these sectors, with the exception of farming, caused fewer serious pollution incidents than in 2013. In 2014, there was a:

- 41% decrease in incidents caused by the waste treatment (non-hazardous) sector
- 31% decrease in incidents caused by water companies
- 31% decrease in incidents caused by the landfill sector
- 27% decrease in incidents caused by the biowaste treatment sector
- 7% increase in incidents caused by the farming sector

The majority of incidents caused by these sectors were amenity incidents, most commonly involving odour. Together, the biowaste treatment, landfill and non-hazardous waste treatment sectors caused over three-quarters of all odour incidents in 2014 (76 of 96 odour-related incidents). However, since 2013 there has been a decrease in the number of odour incidents caused by each of these 3 sectors.

For further information, see the Pollution incidents 2014: evidence summary.

We continue to improve our risk-based approach, to target our resources in the most effective way

We are responsible for regulating the industries in England with the highest potential environmental impacts under the Environmental Permitting Regulations (EPR). We issue environmental permits which contain conditions that businesses must comply with. We carry out on-site inspections and monitoring to make sure businesses comply with their environmental permits. We focus regulatory action on sectors and individual sites causing multiple pollution incidents or where we see persistent non-compliance.

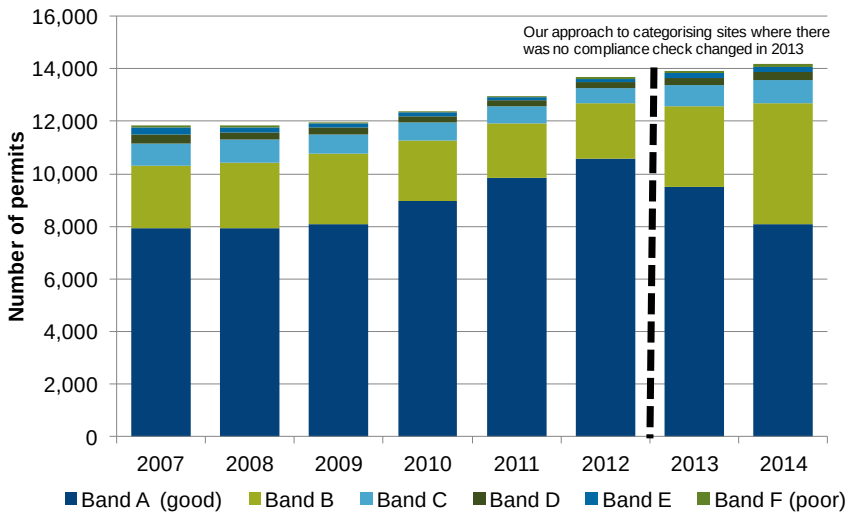
We rate compliance with permit conditions in bands A (good) to F (poor). Bands D, E and F represent poorer compliance with permit conditions.

In 2014, 96% of the sites we regulate were scored as having A, B and C ratings for permit compliance. Compared with 2013 there was a slight increase (0.3%) in the percentage of those receiving D, E and F ratings.

The number of permits has increased as more activities have been brought into the EPR. In 2014 there were 14,165 permits, 20% more than in 2007 (the first year of this data), when there were 11,846 permits.

In 2014, 96% (13,581) of the sites we regulate were rated in compliance bands A, B or C, compared with 94% (11,146) in 2007.

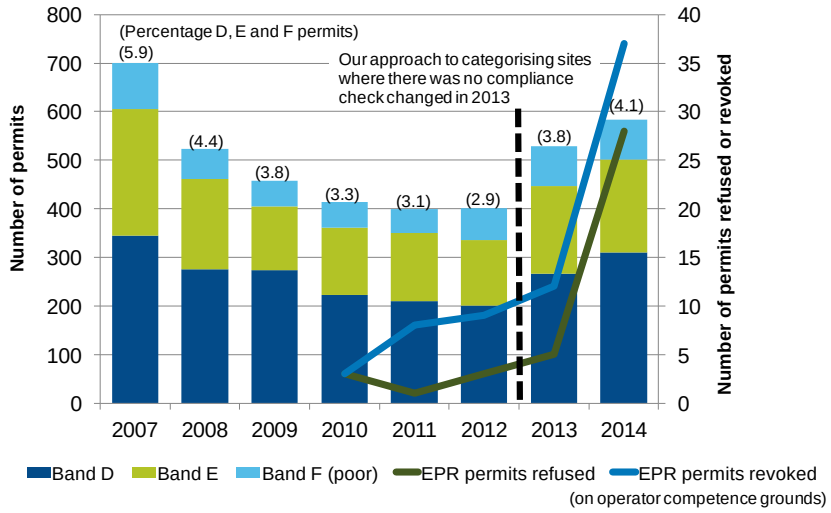
Opra permit compliance ratings in England, 2008 to 2014



The number of sites in band A reduced between 2013 and 2014 by 15% (from 9,496 to 8,078) due to us applying more rigorous requirements to keeping and submission of site records.

The number of operators that are persistent poor performers (defined as those with permits that have been in compliance bands D, E or F for the last 2 consecutive years) is increasing. There were 229 permits in D, E or F bands in 2013 and 2014, compared to 183 permits in 2012 and 2013. In 2014, 48% (109) of the persistent poor performers were in the non-hazardous waste treatment sector and 23% (52) were in the landfill sector. We have established a programme designed to clamp down on persistent poor performers and sites which cause pollution incidents and negative impacts on communities.

EPR permits rated for poor compliance (all sectors) in England, 2007 to 2014



Persistent poor performers
Permits in compliance bands D, E or F in 2013 and 2014

If an operator has a poor compliance record, we may revoke their permit. Other reasons for revoking or refusing a permit include convictions, inadequate management systems/fire prevention and inadequate finances.[5]

We may also suspend an environmental permit if we consider that operation of the regulated facility poses a risk of serious pollution, or initiate a permit variation to improve standards. In 2014 we initiated 638 EPR permit variations.

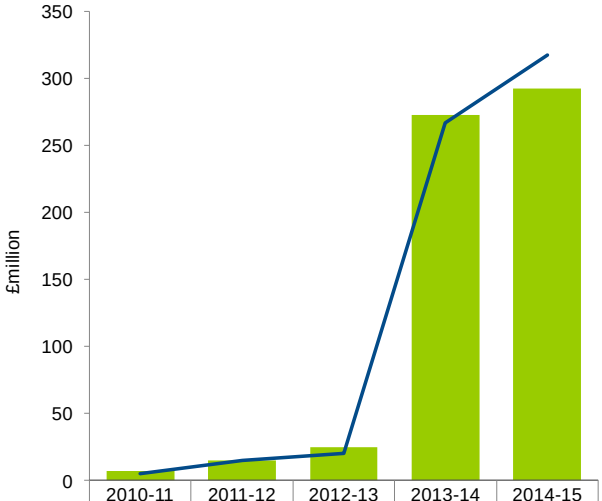
We are making good progress to reduce burdens on business

We have helped businesses save a total of £292 million since April 2010, against a revised target of £317 million which was over 6 times our initial forecast of £45 million.[6]

In the financial year 2014 to 2015 we helped businesses save almost £20 million. Initiatives included:

- quality protocols for steel slag, and biogas/biomethane – these protocols let businesses know when wastes are fully recovered, enabling them to be sold as a product
- the electronic duty of care system (Edoc) – a free online system that businesses can use to record their non-hazardous waste transfers, instead of

Reductions in costs for businesses we regulate in England, 2010-11 to 2014-15



	2010-11	2011-12	2012-13	2013-14	2014-15
Actual savings (cumulative £m EANCB)	7.3	15	25.2	272.4	292
Target savings (cumulative £m EANCB)	5	15	20	267	317

EANCB = Equivalent Annual Net Cost to Business.

[5] We made a fundamental change to our guidance in 2013, expanding the abilities to refuse/revoke to include poor compliance, inadequate management systems, inadequate technical competence and/or inadequate financial competence.

[6] Cost savings to businesses are calculated using Equivalent Annual Net Cost to Business (EANCB). This is the government's preferred methodology and is used in impact assessments for regulatory measures in accordance with Green Book guidance. EANCB takes the net present value of a project or initiative and works out what this is on a yearly basis.

using paper waste transfer notes

- the new lower tier waste carrier registration system – an online registration service for organisations and businesses
- online systems to gather regulatory data
- standard permits for certain Industrial Emissions Directive activities
- revised monitoring arrangements for landfill sites

We have had a leading role in the 80% reduction in the volume of environmental guidance documentation across the Department for Environment, Food and Rural Affairs (Defra) since 2010. This has been achieved by improving co-ordination, making guidance more concise and ensuring that it is better aligned with the needs of users.

During 2014 we processed over 99.7% of permit applications within 13 weeks. Of 195,241 environmental permits, exemptions and registrations issued in 2014, 0.004% (7 permits) took longer than 13 weeks to determine and were not subject to exception criteria agreed with Defra.

We are targeting our regulatory effort more effectively. In 2014/15 we carried out around 22,000 site inspections; in 2002 we carried out more than 100,000.

Our efficiency programme over the past few years, combined with our approach of not increasing baseline charges for most regimes, has resulted in a 6% reduction in our charges across all our charging schemes. We have only proposed charge increases where we are failing to recover our costs fully.

Proportionate enforcement

We make use of the range of enforcement responses available to us. These include: cautions, enforcement notices and civil sanctions (most commonly enforcement undertakings).[7]

We still prosecute people who commit serious offences, but we use different approaches with businesses who are trying to do the right thing. In some situations, issuing an enforcement notice or warning letter at the right time is sufficient to bring an operator back into compliance (and put right any environmental damage) without the need for further sanctions.

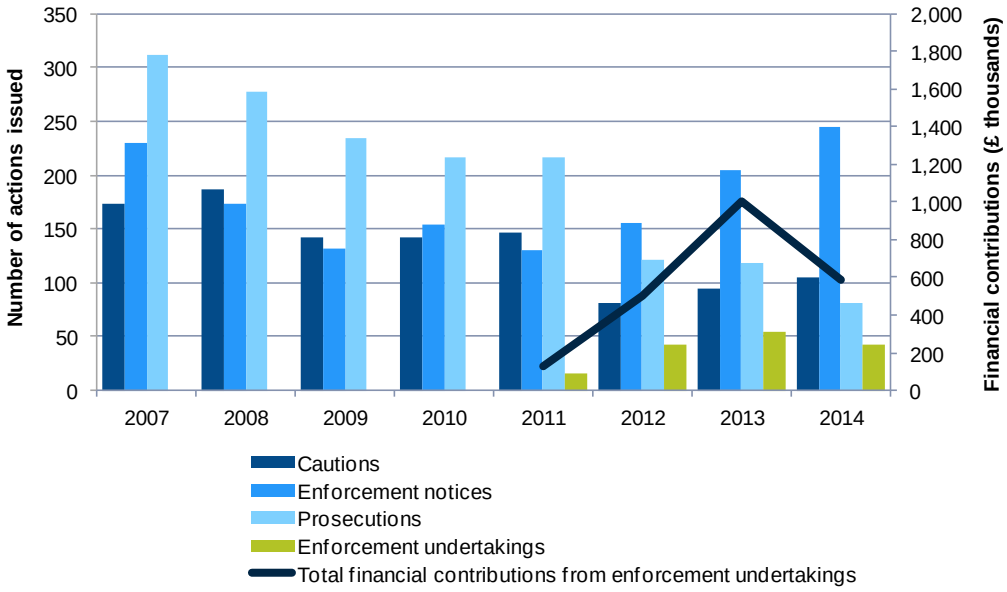
Civil sanctions give us more flexibility to enforce regulations. They aim to change behaviour by requiring offenders to pay to clean up the damage they have caused, improving the environment and helping the local community, rather than paying fines. We have been able to use civil sanctions under a limited number of regulations in England since 6 April 2010.

During 2014 we accepted 43 enforcement undertakings from businesses. Environmental charities, organisations or projects in England received almost £600,000 as a result of these enforcement undertakings.

We also successfully undertook 81 prosecutions against registered companies in 2014 for environmental offences, compared with 118 in 2013. Of these, 48 were against companies that we regulate through permits and registrations. Companies were fined £3.2 million in 2014 for environmental offences, and the average fine per company was £48,000.

[7] Cautions: intended to deter offenders, and suitable for cases where, although we could prosecute, there are other factors that we take into account; enforcement notices: used to bring sites we permit back into compliance and put right any damage caused to the environment; civil sanctions: to change behaviour by offenders paying to clean up the damage caused and improve the environment, rather than paying fines.

Enforcement actions used for environmental offences* by registered companies (all sectors) in England, 2007 to 2014



*Environmental offences for the purpose of this analysis are waste, water quality and emissions offences

In certain circumstances we also seek orders under the Proceeds of Crime Act 2002 (PoCA), which allows for the confiscation and payment to the State of benefits identified as proceeds of crime. The Environment Agency applies for confiscation orders post conviction and has had considerable success in recovering unlawful profits from illegal operators and those seeking to avoid proper controls thereby undercutting legitimate businesses. In 2014, £1.4 million was confiscated from 25 defendants.

Guidelines on how to approach the sentencing of environmental offences were issued to criminal courts in 2014 by the Sentencing Council. For the first time, a tariff has been provided to indicate the right level of penalties dependent upon the seriousness of the offence and the turnover and profit of the organisation involved. This has led to a significant increase in the size of fines imposed upon larger organisations.