



# Sustainable Business Report 2012

Version 1, November 2013

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

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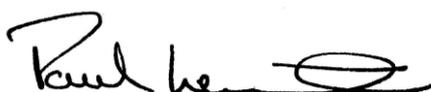
# Foreword

Our Sustainable Business Report for 2012 shows that the vast majority of regulated businesses have a good and improving record on environmental performance, and take their environmental responsibilities seriously. However, a small number of businesses are still bad neighbours, causing complaints from local communities and harm to the environment; but they are very much a minority.

The evidence clearly shows that:

- Emissions to air of oxides of sulphur and nitrogen, and of small particles, increased in 2012, mainly because of a switch of fuel in the energy sector increasing the amount of coal burnt in power stations.
- The overall number of serious pollution incidents fell again, continuing the long term trend. The number in 2012 was the lowest that we have ever recorded. The picture is even better for sites that we regulate. In particular, the water industry has made welcome improvements to reduce incidents during 2012, but incidents from the waste sector have increased.
- The percentage of regulated businesses receiving the highest 'A' rating for permit compliance increased, and those receiving the lowest ratings has fallen. However, there are 79 sites, most of which are involved in waste management, that have had the lowest ratings for three successive years (2010, 2011 and 2012). They are damaging the reputation of their business and of their sectors.
- We are tackling illegal waste sites vigorously. We stopped almost 1,300 illegal waste sites in 2012-2013, which was our most successful year to date. In most cases we closed the sites down but we brought some of them into regulation.
- Our efforts to reduce the administrative load on businesses and operate more efficiently and effectively are bearing fruit. Earned recognition schemes for business sectors are showing promise, we have made substantial savings for permit holders, and in 2012 we delivered over 99% of our permits within 13 weeks.

The report contains much valuable data and information. I hope you find it interesting and useful.



Dr Paul Leinster CBE  
Chief Executive, Environment Agency.

# Introduction

Businesses create wealth, provide employment and deliver the goods and services that society needs. However, their activities can also have an adverse impact on the local and wider environment. We work with businesses to make sure they operate in a way that avoids harming people or the environment, without imposing unnecessary administrative burdens on them.

Discharges of pollutants to water, emissions to air and the management and treatment of waste can harm the environment and affect people's health, so they need to be controlled. One of the main ways we regulate is by issuing businesses with permits which set out limits on discharges and conditions on how the organisations control their activities.

We work with businesses to help them comply with their permits. We conduct risk-based inspections and audits to provide guidance as well as to ensure compliance. We maintain professional relationships with those we regulate. Our evidence shows that most businesses want to comply. However, when businesses don't follow the regulatory requirements, we have a range of enforcement measures we can use, including civil sanctions and, if necessary, prosecution.

We continue to reduce the administrative burden we place on businesses to support growth. Since 2010 we have cut the administrative cost to business by £15 million per annum and we are on course to deliver savings to business of more than £45 million per annum from 2015.

This report builds upon our Sustainable Business Report for 2011. That report covered both England and Wales. In April 2013, Natural Resources Wales was formed, with responsibility for environmental protection in Wales. This report, therefore, includes only the data relating to businesses that we regulate in England. We use this data to guide and inform our engagement with industry and to challenge businesses to show the leadership required to deliver high standards in environmental protection. The rewards for doing so include lower fees, less intrusive interventions and a stronger brand. We also use the data to improve our own performance and to become a better regulator.

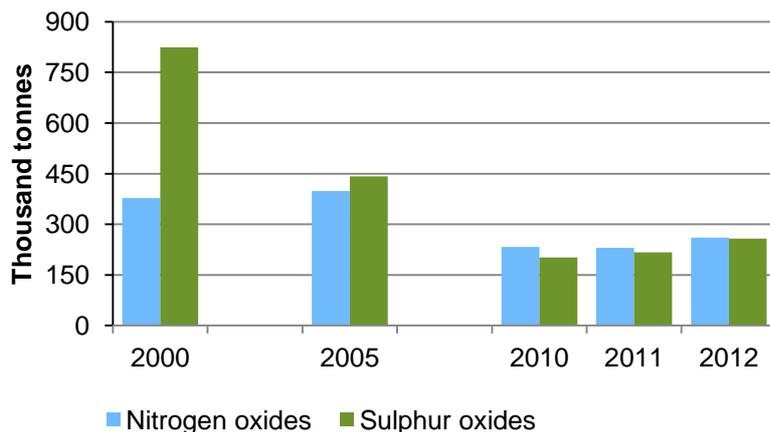
# Performance summary

After many years of reductions, emissions to air are increasing due to the energy supply industry burning more coal

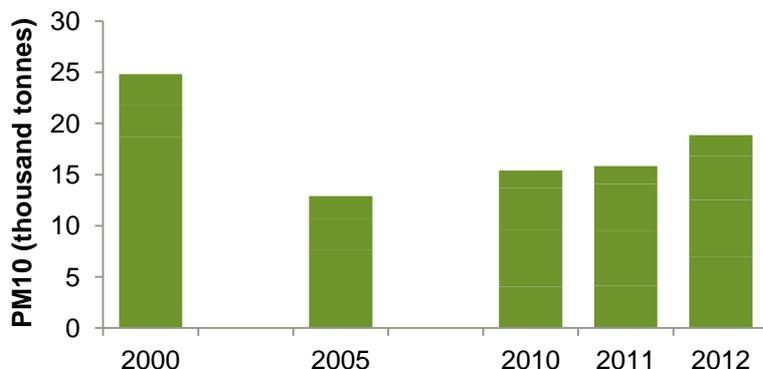
Emissions to air of gases and fine particles affect health in many ways, including causing breathing or heart problems. According to Defra's 2010 report, *Air pollution: action in a changing climate*, poor air quality leads to a reduction in average life expectancy in the UK of about six months. Emissions can also affect the natural environment – for example, by causing acid rain and contributing to global warming. These emissions arise from industry and transport, including the sites that we regulate.

We regulate many sources of gases and particles released to air. Sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and small particles (known as PM<sub>10</sub>) probably have the most significant impact on people's health and the natural environment. In 2012, the businesses we regulate were responsible for 57% of SO<sub>x</sub>, 22% of NO<sub>x</sub> and 14% of PM<sub>10</sub> released in the UK.

## Emissions to air from industrial sites we regulate in England: nitrogen oxides and sulphur oxides



## Emissions to air from industrial sites we regulate in England: fine particles (PM<sub>10</sub>)



Against a general trend of falling emissions since 2000, SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>10</sub> emissions increased in 2012. SO<sub>x</sub> emissions increased by 19%, NO<sub>x</sub> emissions by 13% and PM<sub>10</sub> increased by 14%. The increase in all three pollutants over the last two years has been primarily caused by the increase in the amount of coal burned in the power generation sector. This is partially due to the colder winter but mainly because the price of coal has fallen, relative to gas, making it more attractive to industry as a fuel. In fact, the Department of Energy & Climate Change's *Digest of United Kingdom energy statistics 2013*, reported an increase of 24% in the average demand for coal between 2011 and 2012. The cause of this significant drop in coal price is the wide availability of gas from new sources in the USA releasing cheap coal onto the world market.

The overall trend in all these pollutants is still downward. For example, there has been a 69% reduction in SO<sub>x</sub> emissions since 2000, and emissions are still well within regulated limits for the sector. There will be further significant reductions in emissions of SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>10</sub> over the next few years as the operation of fossil-fuelled power stations is further constrained by the requirements of the Large Combustion Plant Directive and the Industrial Emissions Directive.

## Pollution incidents continue to fall

Serious and significant 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 but evidence suggests the damage to reputation may be even more serious in the longer term.

We work with businesses to prevent pollution incidents. Uncontrolled releases such as spillages from industry, waste fires and leakages of sewage can pose a risk to life or destroy habitats, as well as affect drinking water supplies and prevent people from enjoying their local environment. We work with site operators to help them understand and manage risks and to identify the root causes of incidents and prevent recurrence.

We permit about 13,600 sites across England. However, most pollution incidents are from sites that don't hold an environmental permit or where the source of the incident cannot be identified. If a site causes pollution, we can take enforcement action where it is appropriate to do so. We seek to recover our costs in dealing with incidents wherever we can.

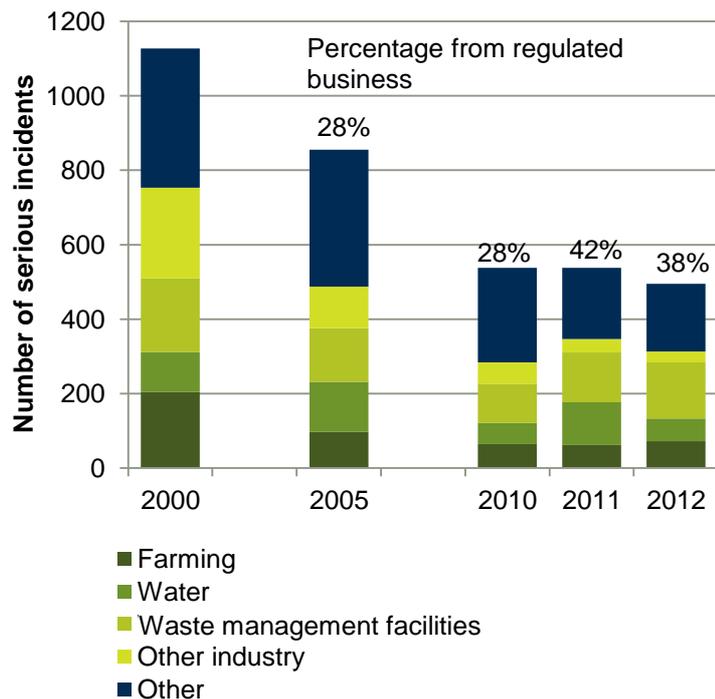
There were 504 serious and significant pollution incidents in England in 2012, down by 8% compared to 2011 and the lowest recorded level to date. The position is even better for the sites we regulate, with the number of serious and significant pollution incidents 16% lower compared to 2011 figures (194 incidents in 2012 compared to 232 in 2011).

In 2011 we reported that we would be working with the waste management and water and sewerage companies to support them in improving their performance. Incidents in the water and sewerage sector fell to 61 during 2012, compared to 115 in 2011.

However, incidents from the waste sector have increased. 70% of amenity incidents at waste management sites were caused by odour. Most of these incidents were in the biowaste and landfill sectors.

We will continue to focus on addressing pollution incidents in the waste and water and sewerage sectors. The 2012 data shows that these sectors account for over 93% of all incidents at sites we regulate (181 of 193 serious and significant incidents in 2012).

### All serious pollution incidents (including sources we regulate and those we don't) in England



[For further information, see our Pollution Incidents Report \(www.brand.environment-agency.gov.uk/mb/C4yC8y\).](http://www.brand.environment-agency.gov.uk/mb/C4yC8y)

## Continued improvement in compliance with environmental permits but some are persistent poor performers

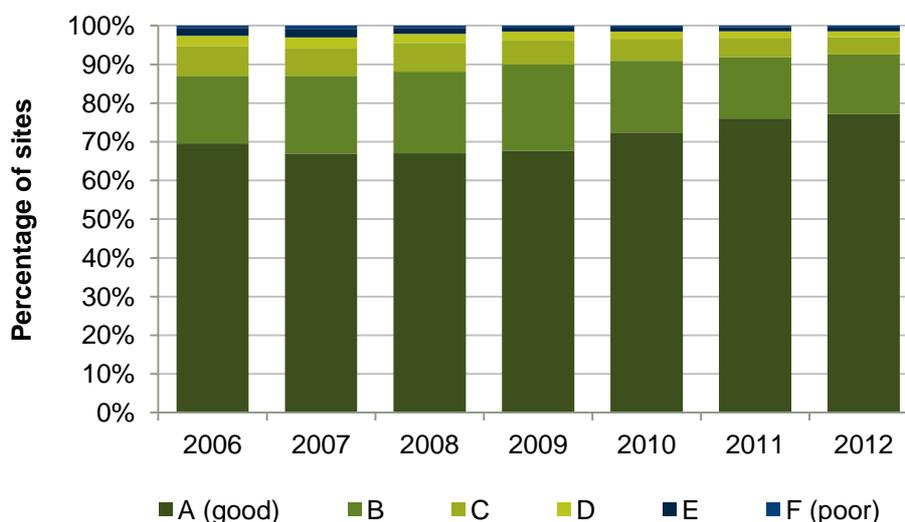
The permits we issue to businesses are designed to ensure releases from the site to air, land and water do not cause pollution or harm. We work with businesses to help them comply with their permits, and assess compliance through our Operational Risk Appraisal (OPRA) scheme. This rates sites in performance 'bands' A to F, with A being good and F being poor.

We carry out compliance checks on the basis of risk. Sites in band A that demonstrate good compliance will have fewer checks as they are assessed as lower risk.

We work with operators of poor performing sites to achieve lasting improvements - for example requiring them to invest in new technology and site infrastructure, and improving their procedures, operating practices and management. Wherever businesses pose a risk to people or the environment and are unwilling to make these improvements, we take enforcement action to ensure they do; if necessary we can remove their permit to operate.

- The number of permits has increased by 5% since 2011, from 12,975 to 13,677. There has been a 16% increase since 2006 (11,835).
- 78% (10,612) of the sites we permitted in 2012 were rated A, compared to 76% (9,859) in 2011 and 70% (8,233) in 2006 (the first year of data collection).
- 3% (401) of permits were rated D, E or F, compared with 400 in 2011, but down from 634 in 2006.
- The biowaste sector had the highest proportion of band D, E and F sites in 2012 at 5% (42 of 888 permits), followed by the metals sector at 4% (8 of 185 permits). Waste storage, treatment, transfer and use, and the landfill sectors each had 3%.
- Businesses involved in waste storage, treatment, transfer and use, landfill, biowaste and energy-from-waste activities accounted for 92% of the band D, E or F sites in 2012 (363 of 396). However, waste activities account for 80% of all environmental permits.

### Compliance with permits in England



As in 2011, the vast majority of sites we regulate are in the higher OPRA compliance bands. For these best performing sites we already take a risk-based and proportionate approach to regulation through reduced inspections and charges and we are also developing earned recognition schemes.

We have a particular focus on the persistently poor performing sites - the 161 that were in bands D, E or F in both 2011 and 2012. Businesses involved in waste activities accounted for 94% (151) of these.

79 sites have been in bands D, E or F for three years; 75 of these were waste activities.

We are working closely with the waste industry and trade associations to understand the root cause of persistent poor performance. This will help us apply proportionate advice and guidance or enforcement activity to bring operators back into compliance.

## Sustained improvement in water company performance after a disappointing year in 2011

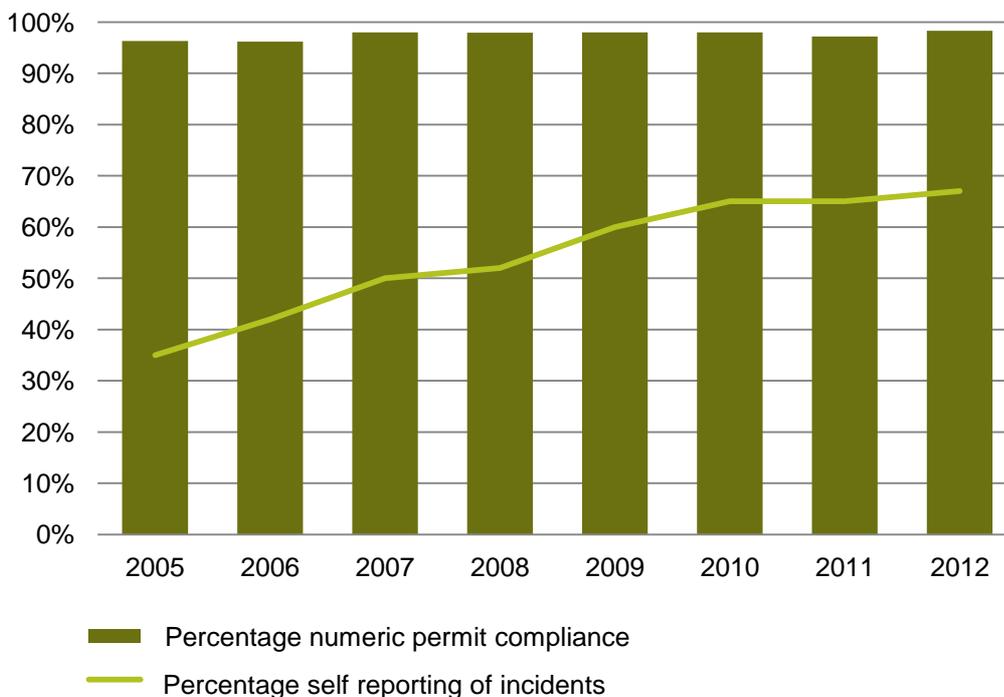
The nine water and sewerage companies in England have demonstrated a general trend of improvement in 2012 following a disappointing year in 2011. Improvements for the sector have shown:

- an increase in permit compliance to 98.3% (1.1% rise from 2011) which is the best ever for the sector (above the 98% seen in 2007)
- a slight increase in self-reporting of pollution incidents (from 65% in 2011 to 67% in 2012)

The level of compliance achieved by the water companies in 2012 was the highest ever achieved by the sector. The increase in permit compliance in 2012 compared to 2011 is welcome, and is comparable with the levels of compliance seen in 2007 to 2010.

Seven out of the nine water companies increased their self-reporting of incidents in 2012. We believe self reporting is an important indicator of a company's approach to how they manage their assets.

### Summary of performance from 2005 to 2012 for the nine water and sewerage companies in England



## Using our intelligence-based approach to waste crime we shut down an illegal waste site every 90 minutes of the working day

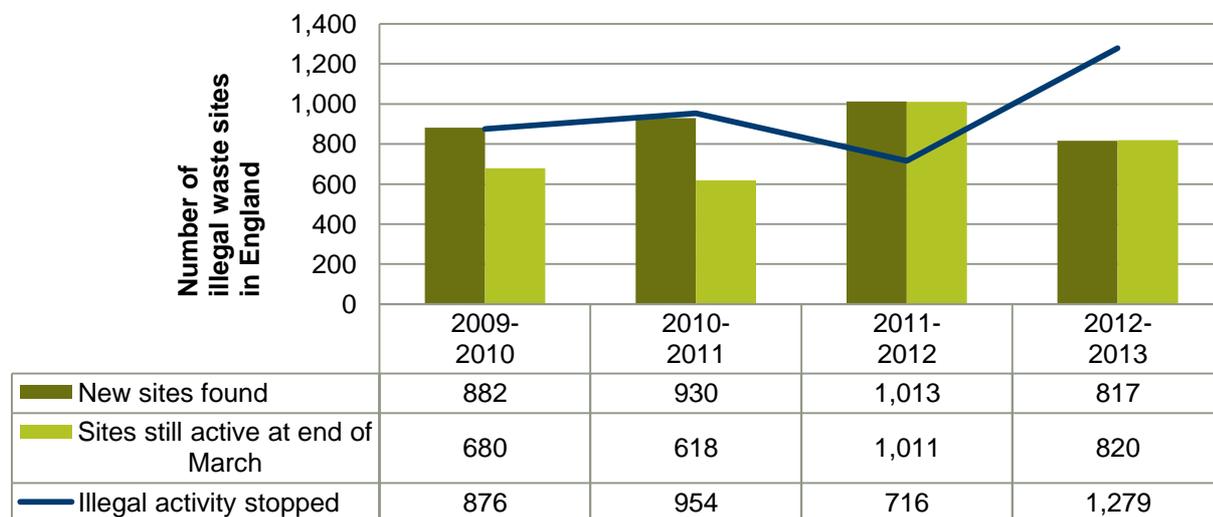
Waste crime is when people deliberately don't deal with waste in accordance with the law. These activities can cause harm to people and the environment, undermine legitimate business and reduce tax revenue to the government. Waste crime is committed by a broad spectrum of people for a number of reasons. This includes people whose actions are due to ignorance of the law, those out to make money who are willing to take the risk of being caught, or more serious career criminals involved in a wide range of offending.

The main types of waste crime we deal with are illegal waste sites, large scale illegal dumping and illegal exports. Sites are illegal if they don't have a permit or don't meet other legal requirements such as a registered waste exemption. Permit conditions are designed to ensure releases from the site to air, land and water do not cause pollution or harm. Illegal sites usually do not have planning permission and they often blight communities as a result of anti-social vehicle movements, noise, dust and odour, as well as other pollution.

During the financial year 2012-2013, we spent around £17 million on tackling waste crime. This is about 7% of the Environment Agency's total spend on environmental protection and 20% of what we spent on waste regulation as a whole. This includes nearly £5 million invested over the past 18 months in an illegal waste sites task force. This money came from savings made elsewhere in our business.

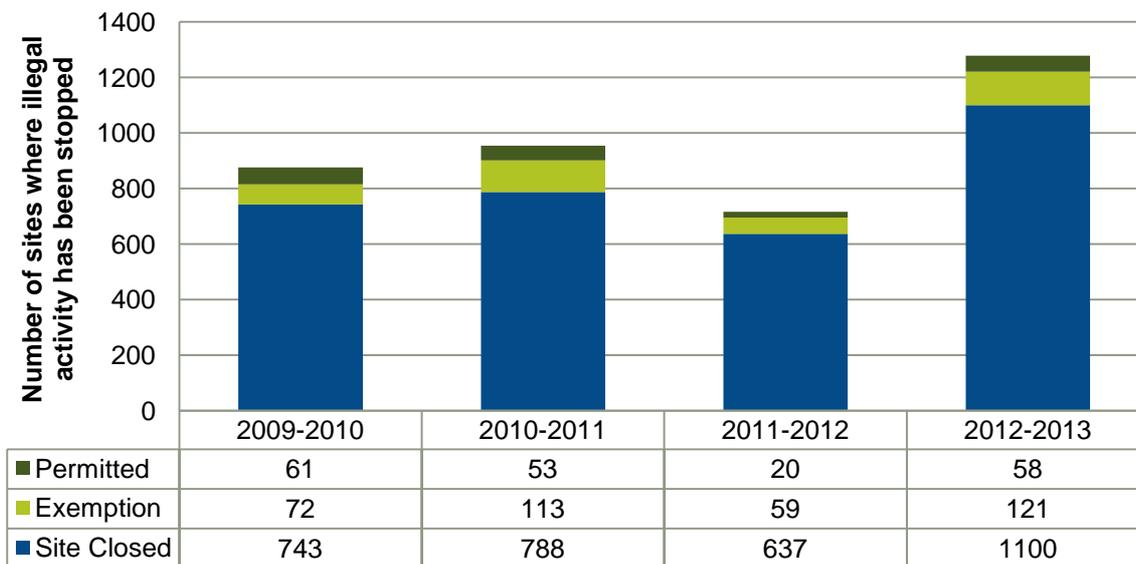
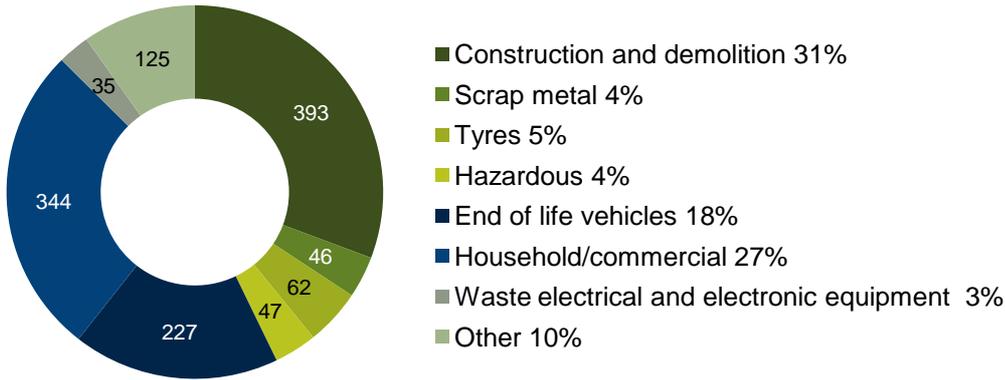
During 2012-2013, we stopped illegal activity on 1,279 illegal waste sites – more than ever before in a single year. This has been made possible because of our increased use of intelligence, improved partnerships and time-limited investment in additional staff focused on this issue.

The numbers below represent the illegal waste sites we know about. Legitimate businesses sharing information with us about illegal waste activity is an invaluable source of intelligence in our effort to crack down on waste crime.



Over 80% of the sites where illegal activity has been stopped were on our database for less than 12 months. Just over 60% of sites were dealing with the waste streams we are prioritising for action, which comprise tyres, construction and demolition (C&D) waste, end-of-life vehicles (ELV), scrap metal, and waste electrical and electronic equipment (WEEE).

## Number of sites where illegal activity has been stopped, by waste type



We stopped illegal activity on sites either by closing them down (1,100 sites), helping the site to move into legal compliance and get the right permit (58 sites), or by issuing a registered exemption to operate (121 sites).

For more information on waste crime, [read our report, Cracking down on waste crime](http://www.environment-agency.gov.uk/wastecrime), which sets out our activity during 2012-2013 (<http://www.environment-agency.gov.uk/wastecrime>).

## Reducing the administrative burden on business

### *Earned recognition*

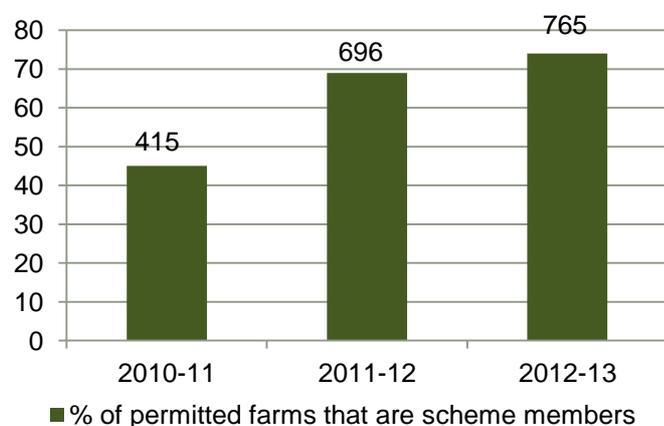
Earned recognition schemes are open to good performers only and allow us to focus our efforts on poor performers. Following the introduction of a scheme for the pig and poultry sector we are trialling a similar approach across 30 sites in six other sectors. The Environmental Permitting Regulations (EPR) Assurance Scheme trials began in October 2011 and will conclude in 2013.

Members of the Pig and Poultry Assurance Scheme are visited by the Environment Agency once every three years and benefit from a reduction in their annual subsistence fee, from £2420 to £1540. They use their own environmental management systems, which are independently audited, to assure compliance.

During 2012, we concluded a successful trial on the use of an operator's data portal. This enabled us to have direct access, via a secure link to the operator's data systems, to the environmental monitoring data required by their permits. Environmental compliance data for 48 landfill sites is now reported by this means, making it much quicker and simpler to meet permit reporting requirements. In 2013, this facility is being offered to other operators with a good compliance record in the landfill and other key sectors.

Our charging scheme also recognises and rewards good performers. Subsistence charges for permit compliance checking activities are set on a sliding scale using our Operational Risk Appraisal (OPRA) tool. The highest performing operators (OPRA band A) pay 32% of the charge levied on the worst performers (OPRA band F) reflecting the reduced regulatory effort their activities require.

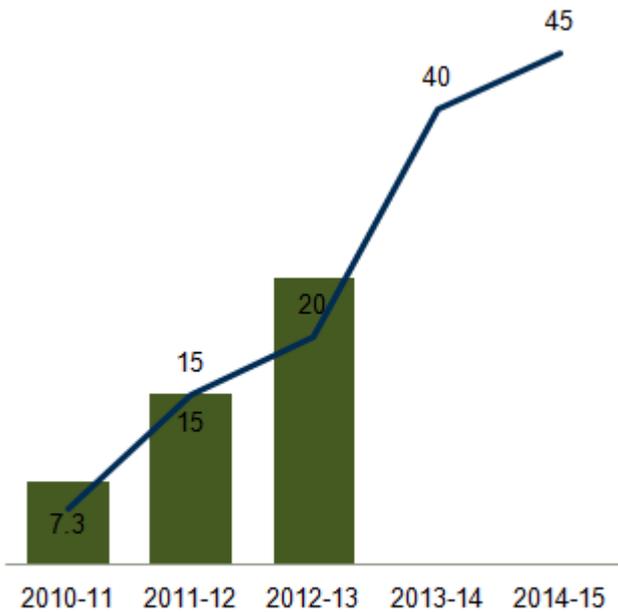
### **Number of farms that are members of the Pig and Poultry Assurance Scheme**



### *Savings for our regulated customers*

During 2012-2013, we achieved our annual corporate plan target with a further £5 million of savings to business. This is in addition to the £15 million achieved over the previous two years. We have achieved these savings by issuing more standard permits for waste operations; allowing low-level radioactive waste to go to landfill; issuing the Poultry Litter Ash Quality Protocol; and from simplifying the regulation for filling irrigation reservoirs.

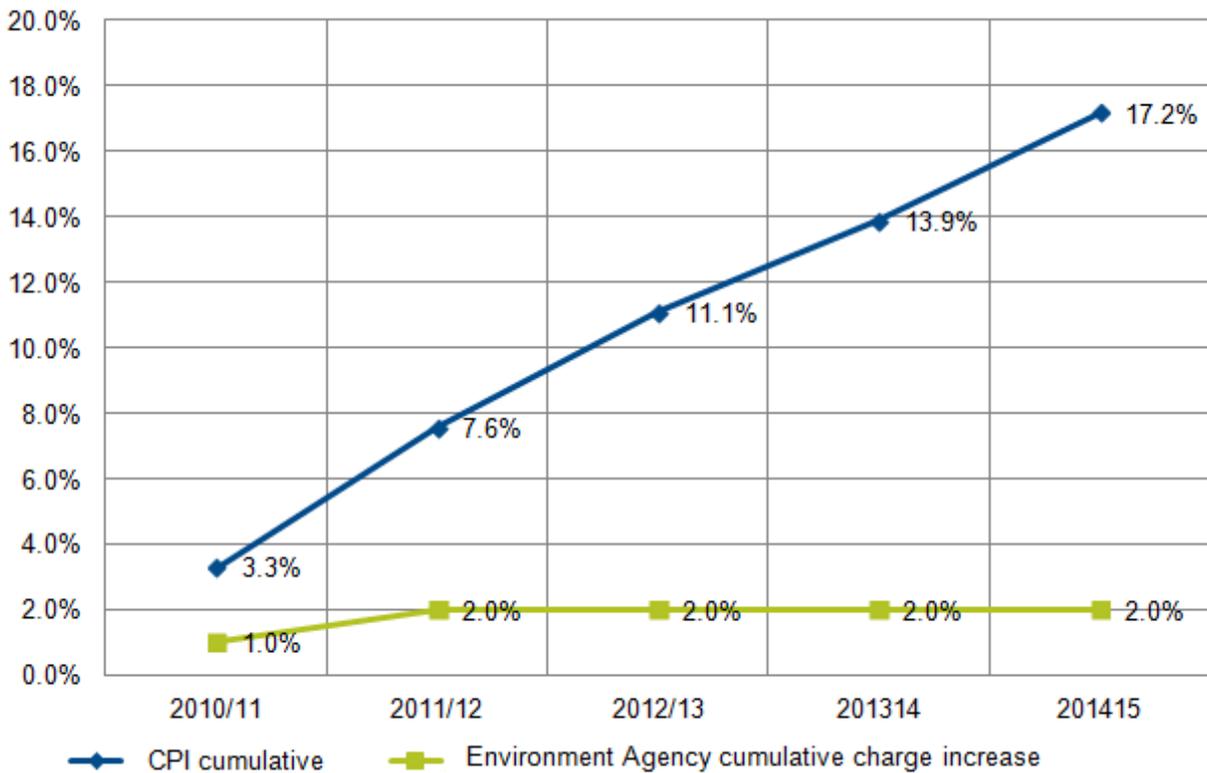
**Reductions in administrative costs (expressed as an annual equivalent net cost to business) for businesses we regulate**



Green bars = actual savings (cumulative £m p.a)  
 Blue line = target savings (cumulative £m p.a)

We have not increased our baseline charges during 2012.

**Environment Agency cumulative charge increases vs. Cost Price Index**



### *Working more efficiently*

During 2012 we processed over 99% of our permit applications within 13 weeks. Between April and December 2012 we issued 169,496 environmental permits. Of these, 321 permits took longer than 13 weeks to determine. 316 were subject to exception criteria agreed with Defra and five permits took longer than 13 weeks but all five were determined within 14 weeks.

We published a series of sector plans that set out how we will tailor our approach to the specific environmental issues associated with the 14 main business sectors we regulate. We are also organising our front-line teams to be sector focused, improving their knowledge and understanding of the businesses they are regulating.

# Technical Annex

## 1. Sector comparison table

1. Intensive Farms (pig and poultry units) regulated under Environmental Permitting Regulations (EPR).

2. Includes all EPR permits allocated to a Future Approach to Regulation sector group.

3. Water companies hold over 32,000 discharge consents.

4. As carbon dioxide equivalents (global warming potential) of the six greenhouse gases listed under the Kyoto protocol.

5. Active sites of high public interest during Q4 2012/13.

		Intensive farming <sup>1</sup>	Cement, lime and other minerals	Chemicals	Power	Food and drink	Metals	Paper and textiles	Refineries and fuel production	Energy from waste	Biowaste	Landfill	Waste storage, treatment, transfer and use	Water companies
<b>No</b>	<b>Number of permits</b> <sup>2</sup>	1086	231	528	149	350	185	80	82	139	888	2026	7907	32000 <sup>3</sup>
<b>!</b>	<b>Serious pollution incidents caused by regulated sites</b>	6	1			1	3	1	1		46	16	58	61
<b>✓</b>	<b>Compliance with permits</b>													
	% of sector in band A	68	94	74	87	63	72	74	83	69	79	84	77	not applicable
	% of sector in bands D, E or F	1	0.4	2		1	4	1	1	2	5	3	3	not applicable
<b>🏭</b>	<b>Releases to air</b>													
	Greenhouse gases <sup>4</sup>		3	4	69	1	6	1	7	4	0	5		1
	(Percent of load from sites that report into the Pollution inventory)													
	Sulphur oxides (SOx)		4		69	1	13		13					
	Nitrogen oxides (NOx)		6	2	75	1	5	1	5	2		2		
	Ammonia	69	3	24		1								1
	PM10	31	4		34	3	24		4					
<b>💧</b>	<b>Releases to water</b>													
	(Percent of load from sites that report into the Pollution inventory)													
	copper			1	9		1							89
	zinc			1	2		2		4					91
	Tributyltin (TBT)							0.5					0.5	99
<b>♻️</b>	<b>Waste production and management</b>													
	Waste produced by each sector as (%) of total waste produced.	4	1	8	25	19	7	8	1	11	7	8	-	1
	(Percent of waste from sites that report into the pollution inventory)													
	Waste disposed (% of waste produced by that sector)	16	12	50	74	8	39	25	51	20	53	88	-	95
<b>⚖️</b>	<b>Prosecutions</b>	£77k	£10k	£23k		£8k					£225k	£71k	£311k	£733k
<b>👥</b>	<b>Sites of high public interest</b> <sup>5</sup>	8	1	3		2	5	2		7	20	16	42	1

1. Intensive Farms (pig and poultry units) regulated under Environmental Permitting Regulations (EPR).

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5. Active sites of high public interest during Q4 2012/13.

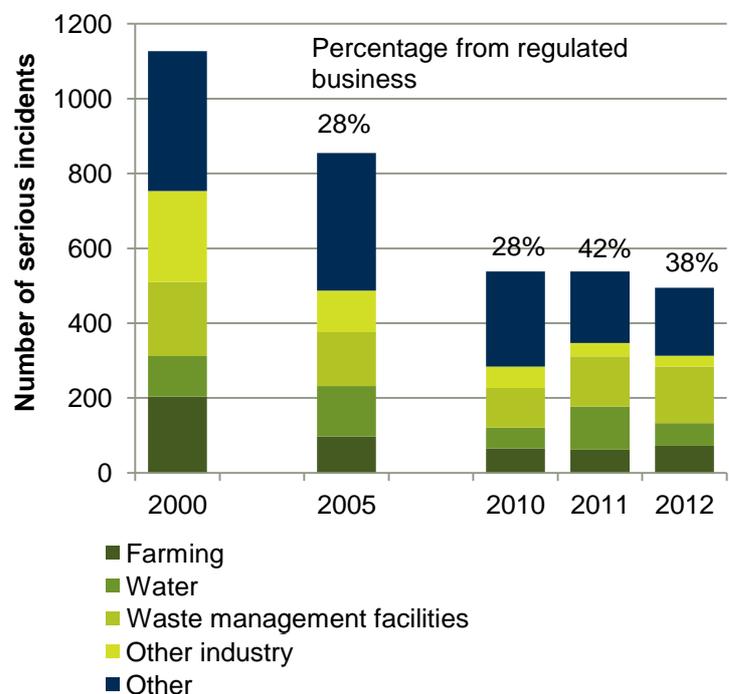
## 2. Serious pollution incidents

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 the impact on people and the environment and find their source. Where appropriate, we will take action against those responsible for the pollution. The data in this section focuses on the most serious pollution incidents (categories 1 and 2).

Note: In this annex, where we refer to 'serious' pollution incidents we mean it to include 'serious' - (category 1) incidents and 'significant' (category 2) incidents.

- There were 504 serious pollution incidents in 2012 in England. This is an 8% decrease on 2011, when there were 546 incidents (figure 1).
- The number of serious pollution incidents per year has fallen by 55% since 2000.
- Industry and businesses (including industrial sites we regulate and those we don't) caused 62% (313) of all serious pollution incidents in 2012.
- For over half (110) of the other incidents, we were not able to find the source of pollution. The remainder were from transport, domestic and residential sources, retail and wholesale or other sectors.
- Serious pollution incidents caused by industry (including industrial sites we regulate and those we don't) have decreased by 10% since 2011 (from 347 to 313), and by 58% since 2000 (from 753 to 313).

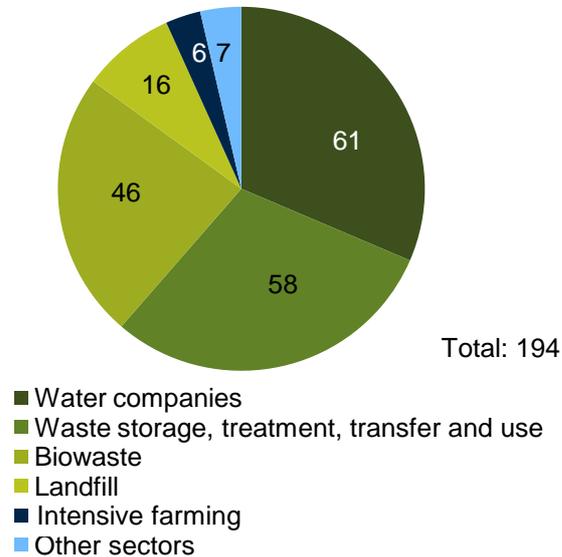
**Figure 1**  
All serious pollution incidents (including sources we regulate and those we don't) in England



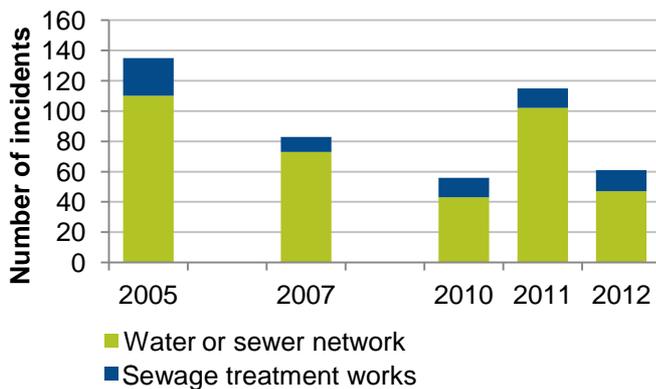
## 2.1. Serious pollution incidents caused by the industrial sites we regulate

- In 2012 the industrial sites we regulate caused 38% (194) of all serious pollution incidents (figure 2). This is fewer than in 2011, when they caused 42% (232) of incidents, but proportionally more than in 2005 when they caused 28% (242) of incidents.
- The decrease from 2011 is due to fewer incidents from water company-owned assets.
- Water company-owned assets caused 61 serious pollution incidents in 2012, a third of the incidents from sites we regulate. This is almost half the number of incidents that occurred in 2011 (115 incidents). Of the 61 incidents, 47 were within the sewer or water network and 14 were from permitted sites such as sewage treatment works. This compares with 115 incidents in 2011, where 102 were within the sewer or water network, and 13 were from permitted sites (figure 3).

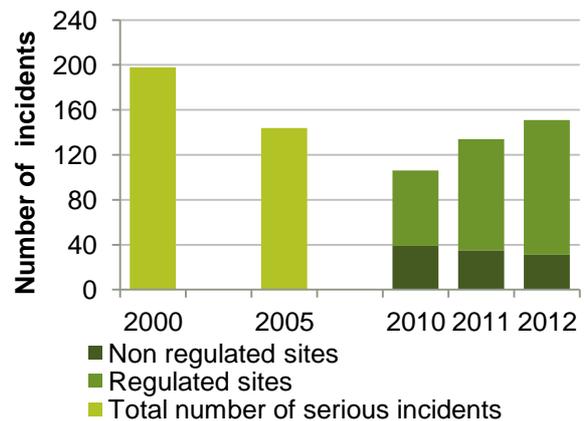
**Figure 2**  
**Serious pollution incidents caused by the industrial sites we regulate in England, 2012**



**Figure 3**  
**Serious pollution incidents caused by water companies in England**



**Figure 5**  
**Serious pollution incidents caused by waste management facilities in England**

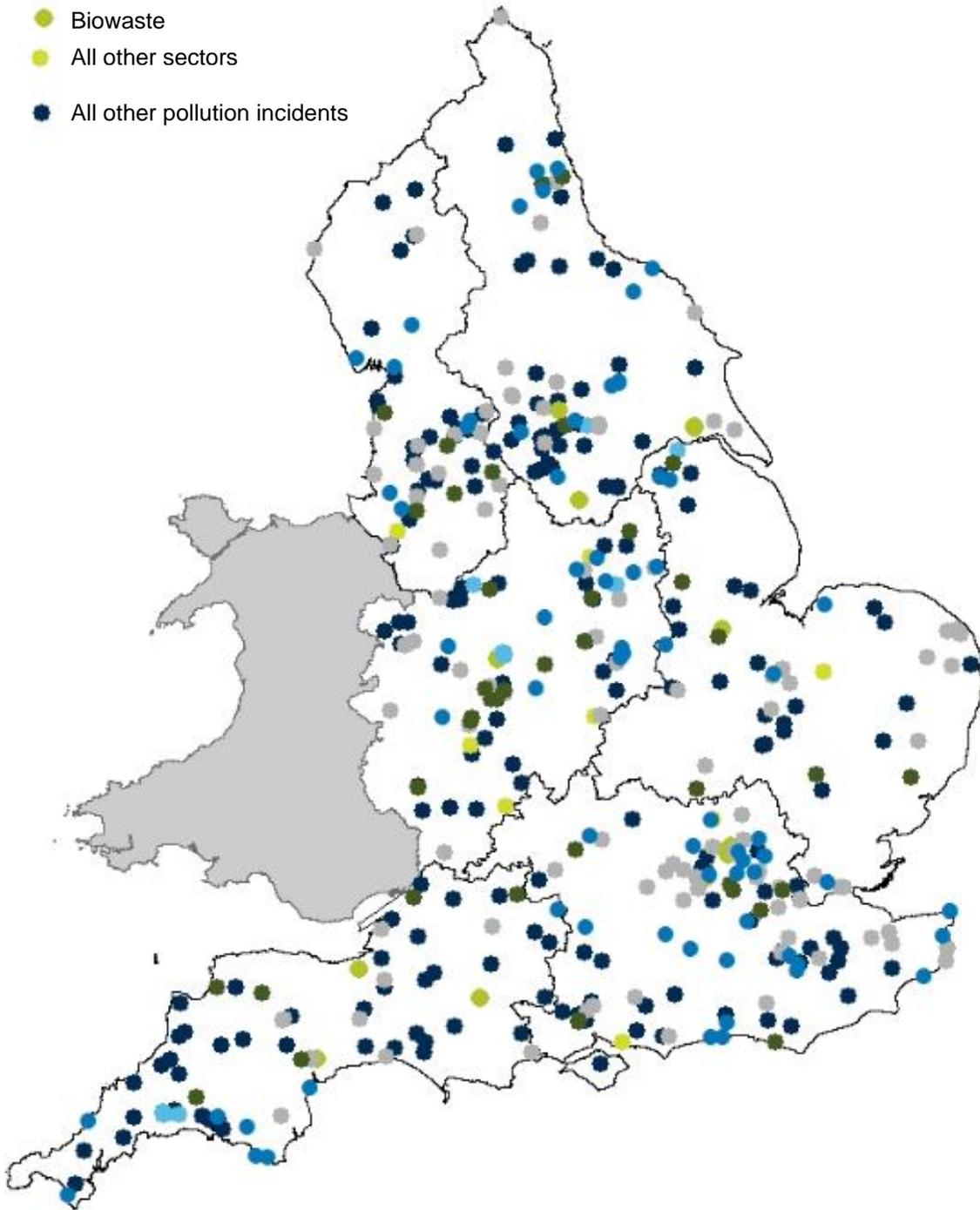


**Figure 4**

**Serious pollution incidents, 2012**

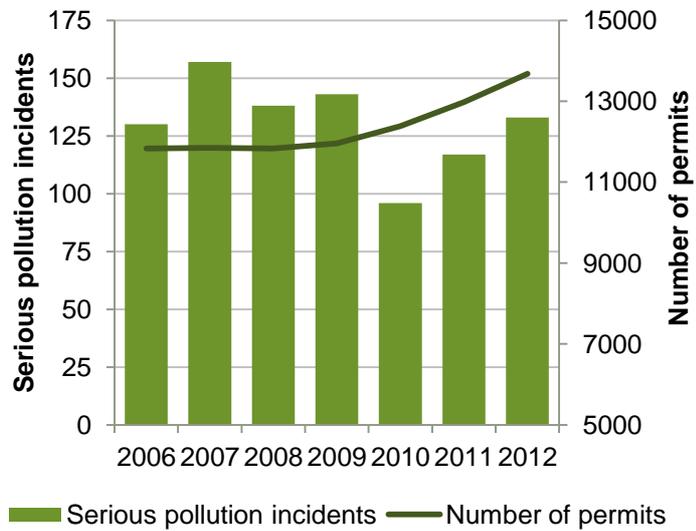
**Industrial sites we regulate**

- Water companies
- Waste storage, treatment, transfer and use
- Landfill
- Biowaste
- All other sectors
- All other pollution incidents



- Regulated businesses involved in waste activities (waste storage, treatment, transfer and use, landfill, biowaste, and energy from waste) caused 120 serious pollution incidents in 2012; 62% of the incidents from sites we regulate (194). This is up from 99 incidents in 2011 (figure 5).
- Regulated sites (excluding the water industry) caused 39% more serious pollution incidents in 2012 (133 incidents) than they did in 2010 (96 incidents). Over the same period the number of sites we regulate has only increased by 10% (figure 6).

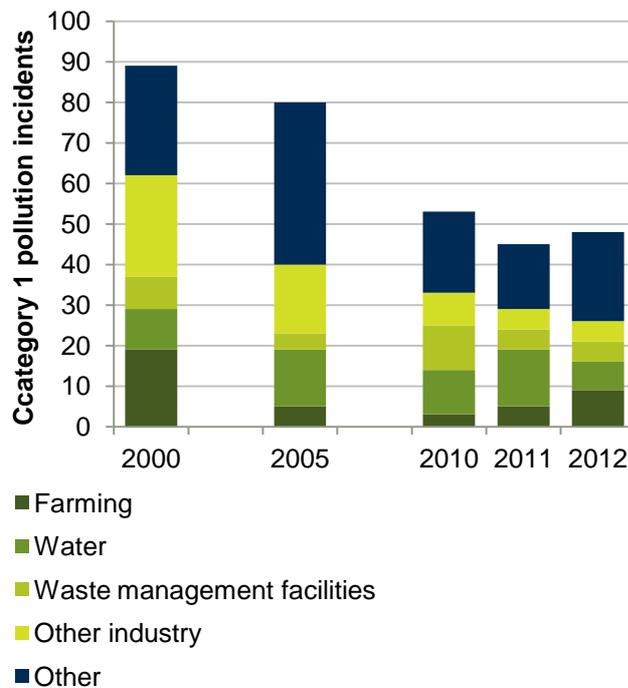
**Figure 6**  
**Serious pollution incidents caused by industry we regulate against number of permitted sites in England (excluding the water industry)**



## 2.2. The most serious pollution incidents

- 48 pollution incidents were classified as the most serious (category 1) in 2012. This is a 7% increase on 2011, when there were 45 incidents (figure 7).
- Total category 1 pollution incidents have fallen by 46% since 2000.
- All industry (including industrial sites we regulate and those we don't) caused 26 of the 48 category 1 pollution incidents.
- For 17 category 1 incidents we were not able to find the source of pollution.
- Eight incidents caused by the sites we regulate were classed as category 1. This is down from 18 incidents in 2011. This decrease is mostly due to the reduced number of incidents from water companies (15 in 2011 to 7 in 2012).

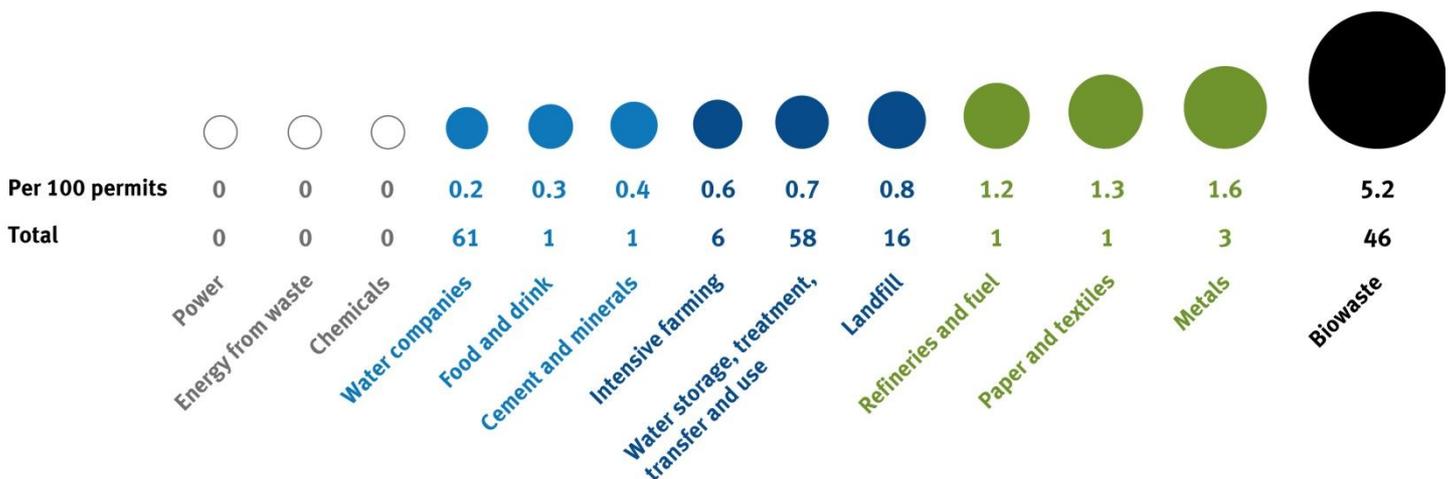
**Figure 7**  
**All category 1 (the most serious) pollution incidents (including sources we regulate and those we don't) in England**



### 2.3. Serious pollution incidents per 100 permits

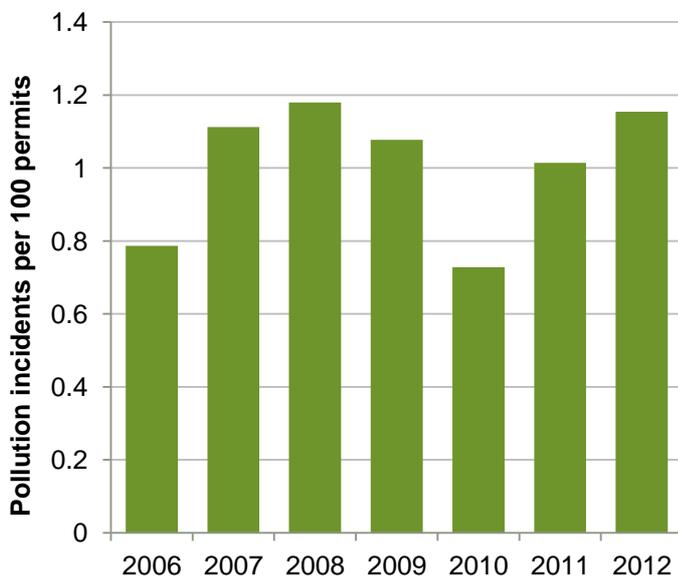
- Water companies and waste storage, treatment, transfer and use companies caused two-thirds of the serious pollution incidents from the sites we regulate. However, these business sectors have many more permits than other sectors. It is also appropriate to compare the number of incidents per 100 permits in a sector. This shows the proportion of incidents from each sector, and highlights sectors which cause a disproportionate number of incidents.
- When we compare figures in this way, the biowaste sector (much of which is new to regulation) had the highest frequency of serious pollution incidents in 2012, 5.2 per 100 permits, but this is a slight improvement on the 5.7 serious pollution incidents per 100 permits last year (figure 8).

**Figure 8**  
Number of serious pollution incidents per 100 permits from regulated industry in England, 2012



- Regulated businesses involved in waste activities caused 59% more serious pollution incidents per 100 permits in 2012 than in 2010; increasing from 0.7 incidents per 100 permits to 1.2 (figure 9).
- This increase is due to the growth in the number of permitted biowaste sites between 2010 and 2012 (469 to 888) and the high frequency of serious pollution incidents recorded from these sites (figure 8).

**Figure 9**  
Serious pollution incidents caused by the waste industry\* we regulate per 100 permits in England

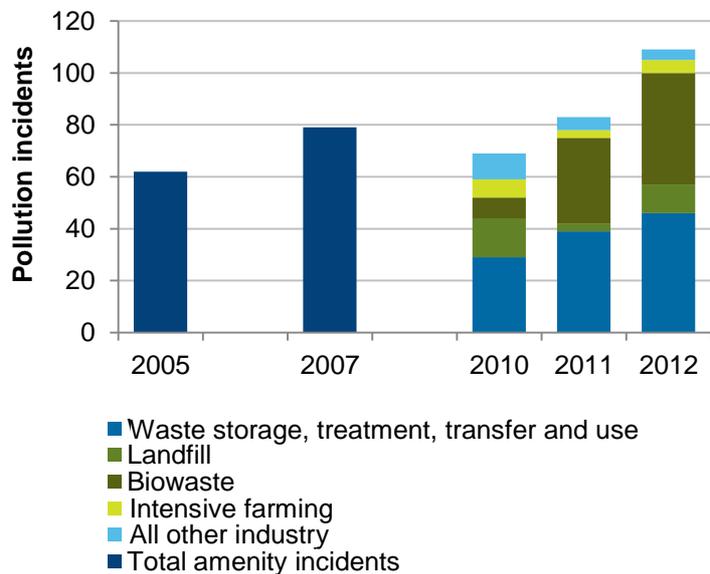


\* includes waste storage, treatment, transfer and use, landfill, biowaste and energy from waste.

## 2.4. Serious pollution incidents from odour, smoke, dust and noise

- A total of 121 serious pollution incidents were reported to us in 2012 involving odour, smoke, dust or noise, 109 of which were caused by the sites we regulate. Local authorities also record and respond to complaints made about these pollutants.
- 2012 (121 incidents) saw an increase of 31% on 2011 (83 incidents) and 73% on 2005 (63 incidents) (figure 10).
- Over two-thirds (77 out of 109) of these amenity incidents involved odour.
- 92% (100 out of 109) were caused by sites involved in waste activities. Odour was involved in 70% (70 out of 100) of these incidents.
- Most of the increase in the biowaste and landfill sectors is the result of multiple similar incidents involving odour at two individual sites.

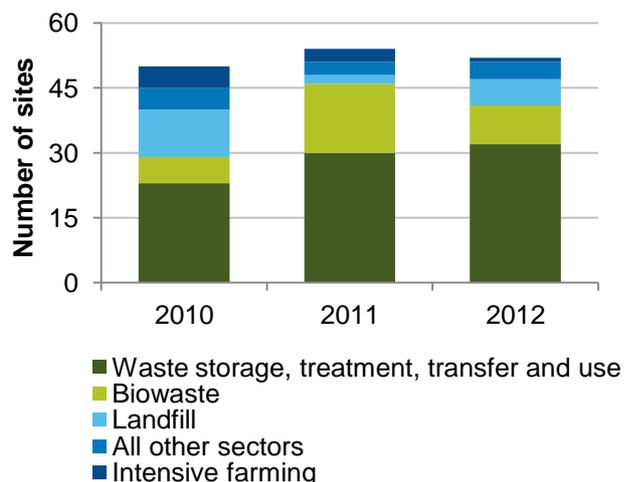
**Figure 10**  
**Serious pollution incidents involving odour, smoke, dust and noise pollutants caused by the industrial sites we regulate in England**



Some sites have had more than one pollution incident.

- 52 unique regulated sites caused all 109 serious pollution incidents involving odour, smoke, dust and noise in 2012. This is similar to the 54 sites that caused 83 incidents in 2011 (figure 11).
- Odour was involved in incidents at half (26) of these sites in 2012.

**Figure 11**  
**Unique regulated sites causing serious pollution incidents involving odour, smoke, dust or noise, in England**

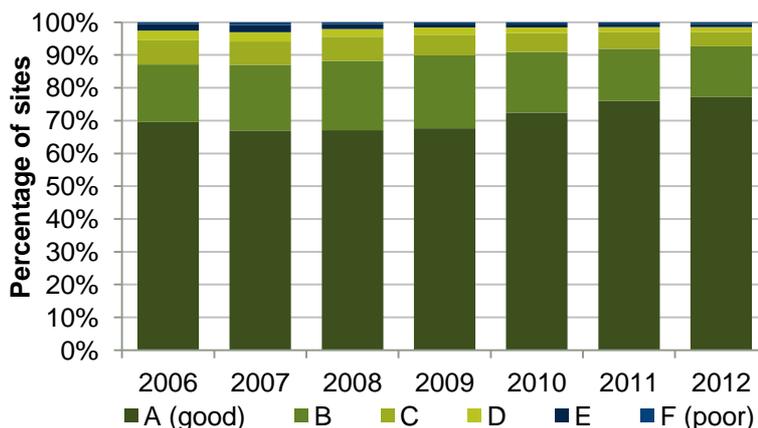


### 3. Operator permit compliance

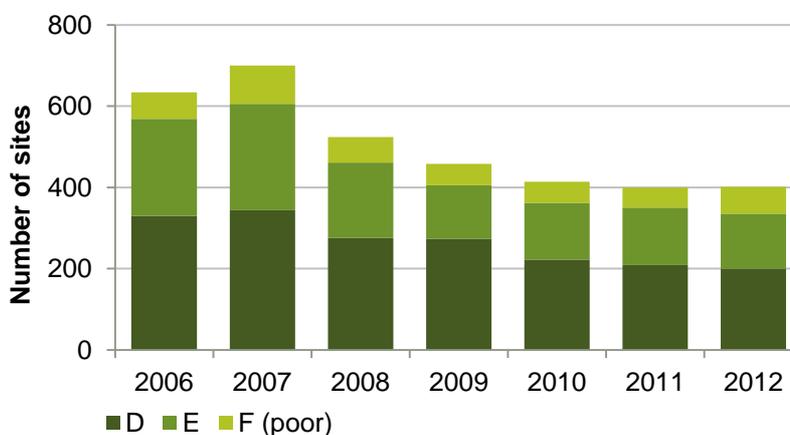
We are responsible for regulating the industries in England with the highest potential environmental impacts under the Environmental Permitting Regulations. We carry out on-site inspections and monitoring to make sure businesses comply with their environmental permits. We rate compliance with permit conditions in bands A to F. Bands D, E and F represent poorer compliance with permit conditions.

- In 2012, 78% (10,612) of the sites we regulate were rated A, compared to 76% (9,859) in 2011 and 70% (8,233) in 2006, which was the first year of data (figure 12).
- 3% (401) of permits were rated D, E or F in 2012, which is a slight increase from 400 (3%) in 2011 but a reduction from 634 (5%) in 2006.
- The total number of activities with permits has increased by 5% since 2011, from 12,975 to 13,677. There has been a 16% increase since 2006 (11,835).
- Since 2011 there has been a reduction in permits rated in band D (from 209 to 200) and band E (from 141 to 135). However, permits rated in band F have increased from 50 to 66 (figure 13).
- The biowaste sector had the highest proportion of band D, E and F sites in 2012 at 5% (42 of 888 permits), followed by the metals sector at 4% (8 of 185 permits). The next highest are waste storage, treatment, transfer and use (254 of 7906), and the landfill (68 of 2026) sectors with 3% each (figure 14).

**Figure 12**  
Compliance with permits in England



**Figure 13**  
Number of permits in band D, E or F in England



- Businesses involved in waste activities (waste storage, treatment, transfer and use, landfill, biowaste, and energy from waste) accounted for 92% of the band D, E and F sites in 2012 (367 out of 401). This represents 3% of all sites involved with permitted waste activities. Waste activities account for 80% of all environmental permits.

**Figure 14**  
**Permit compliance by sector 2012 in England**

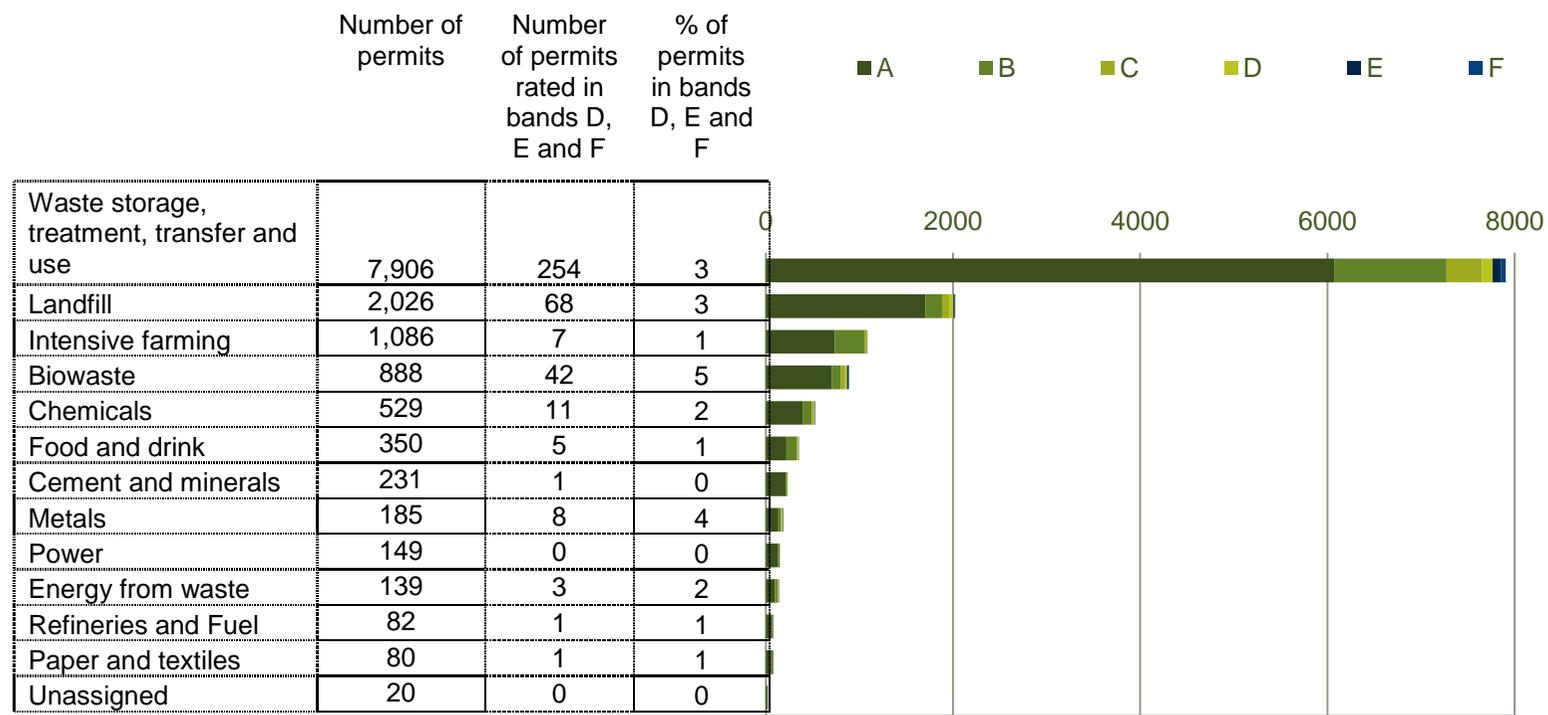


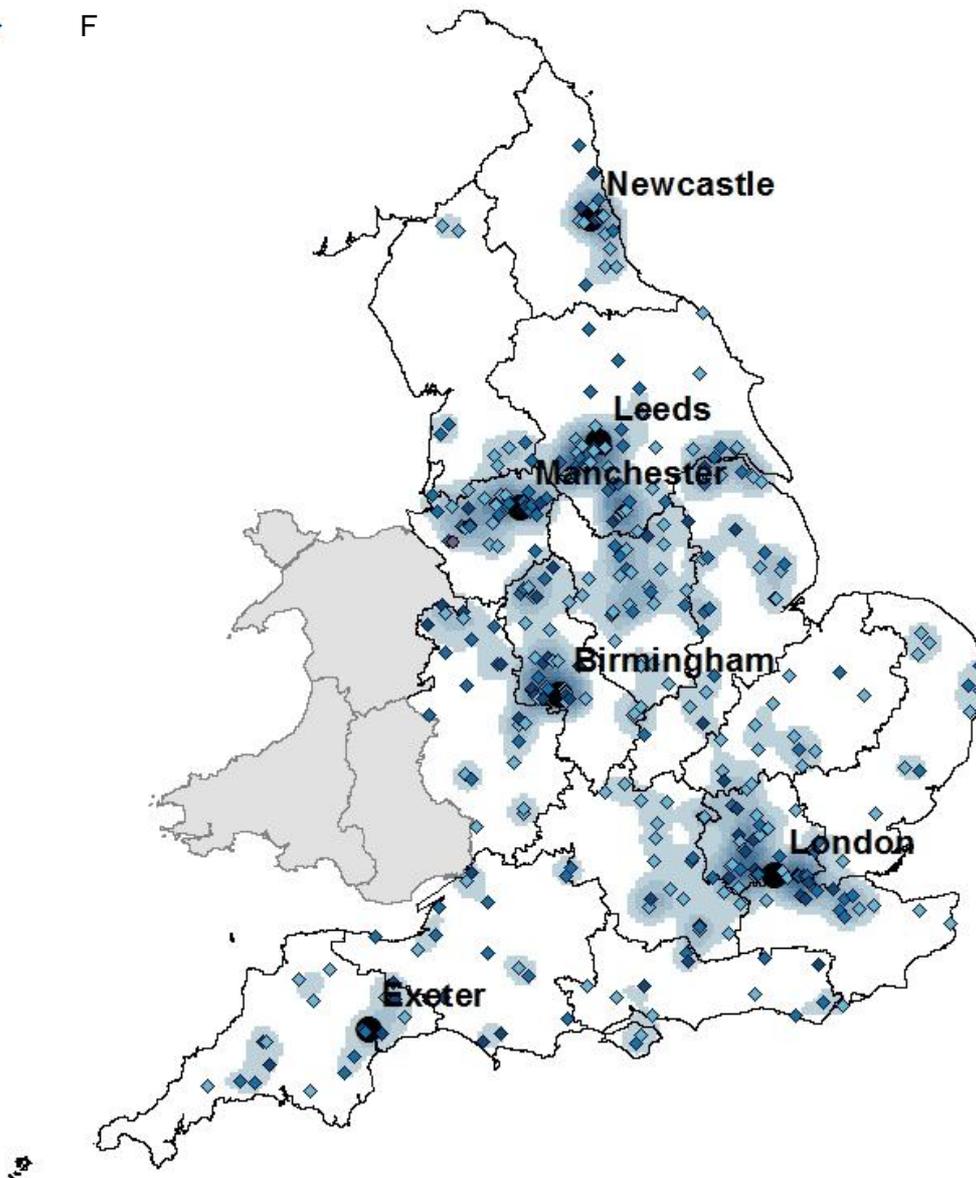
Figure 15 shows the distribution of sites with poor compliance in 2012 (bands D, E and F). The darker the shading, the higher the density of sites rated in bands D, E and F.

**Figure 15**

**Operator permit compliance – poor performers (D, E and F) 2012**

Bands D, E or F, 2012

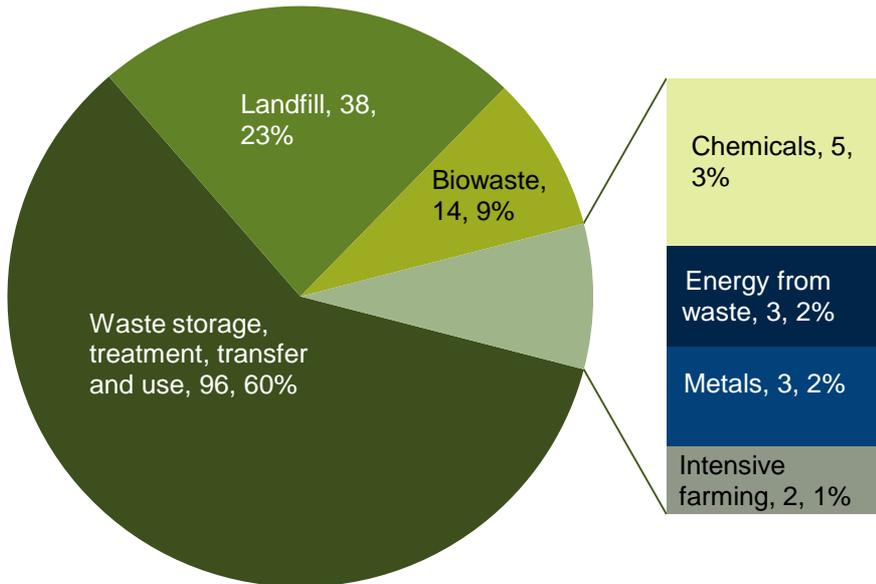
- ◆ D
- ◆ E
- ◆ F



### 3.1. Persistent poor compliance

- 161 permits were in bands D, E or F in both 2011 and 2012 (figure 16). This is an increase from 152 permits in both 2010 and 2011.
- Businesses involved in waste activities accounted for 94% of these permits in 2011 and 2012 (134 permits), and 94% in 2010 and 2011 (151 permits).
- 79 sites stayed within bands D, E or F, across three years between 2010 and 2012, with 95% (75) of these involved in waste activities.

**Figure 16**  
Permits in bands D, E or F in 2011 and 2012 in England

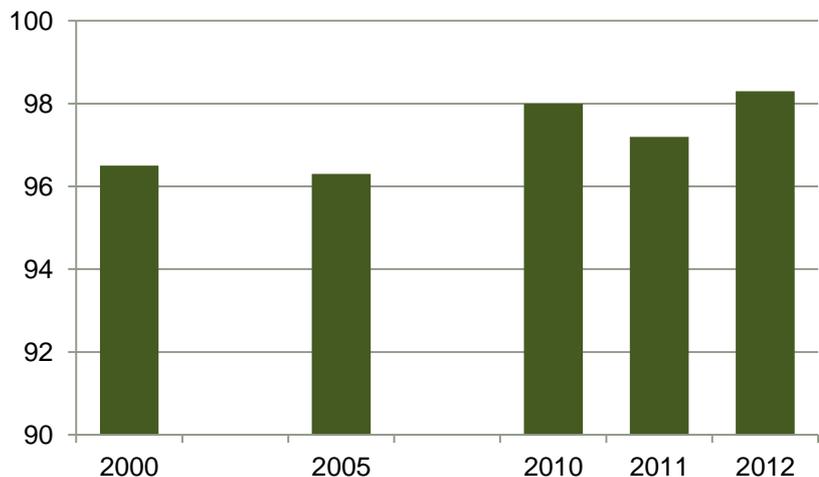


### 3.2. Water company permit compliance

We regulate water companies' compliance under a different scheme to other industries, so their compliance with permits in this report is explained separately.

- Water company permit compliance increased from 97.2% in 2011 to 98.3% in 2012. This is partly due to improved data submission.
- Water company compliance has increased from 96.5% in 2000 (figure 17).

**Figure 17**  
Water and sewerage company performance, England  
Percentage compliance with numeric permits



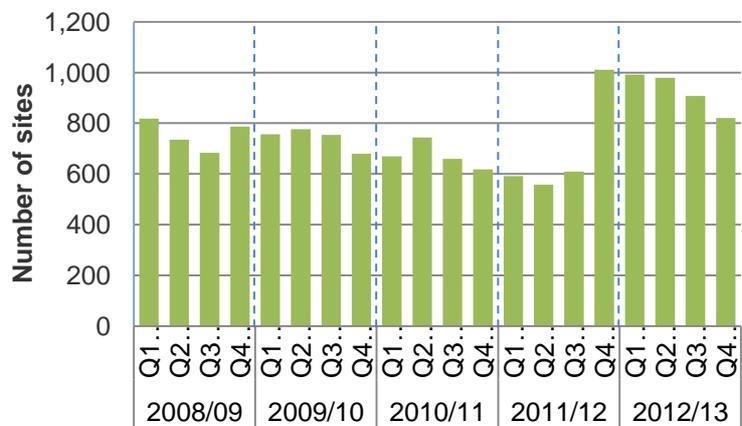
# 4. Illegal waste sites

Waste crime puts people and the environment at risk. It creates unfair competition that undermines legitimate business, along with the investment and economic growth that goes with it. We are working hard to ensure waste crime does not pay. Our focus is on dealing with waste crime at illegal waste sites, large-scale illegal dumping and illegal exports. We are responsible for issuing permits for, and regulating, landfill and waste disposal, treatment and storage sites. This includes dealing with those who don't apply for permits or who wilfully ignore the conditions of their permits.

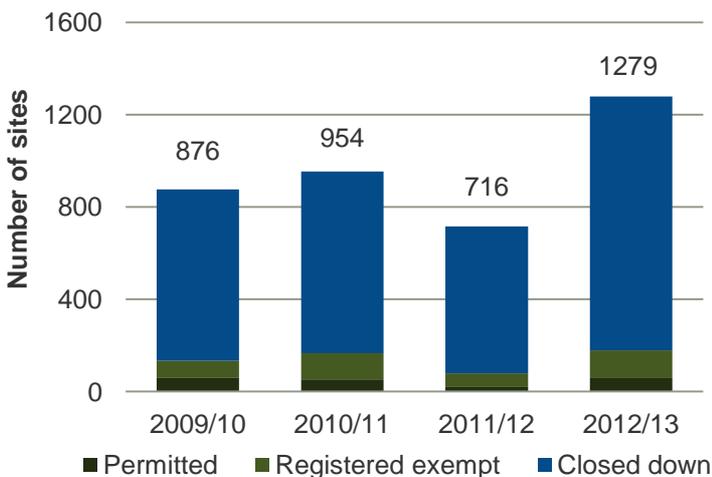
## 4.1. Numbers of illegal waste sites

- At the end of the financial year 2012-2013, we knew about 820 illegal waste sites. This is a decrease of 19% from the end of 2011-2012 (figure 18).
- The substantial increase at the end of 2011-2012 is mainly due to our increased focus on gathering information about illegal waste sites through our waste sites task force.
- We stopped 1,279 illegal waste sites from operating in 2012-2013, the highest number in a single year and 79% more than in 2011-2012 (716). Of these, we brought 179 sites into regulation, through permitting or registered exemptions - more than double the 79 sites in 2011-2012 (figure 19).
- However, we identified 817 new illegal waste sites in 2012-2013. This is 12% fewer than the record 929 identified in 2011-2012 (figure 20). We stopped 462 more sites from operating than in 2012-2013, the biggest net reduction in illegal waste sites in a single year.

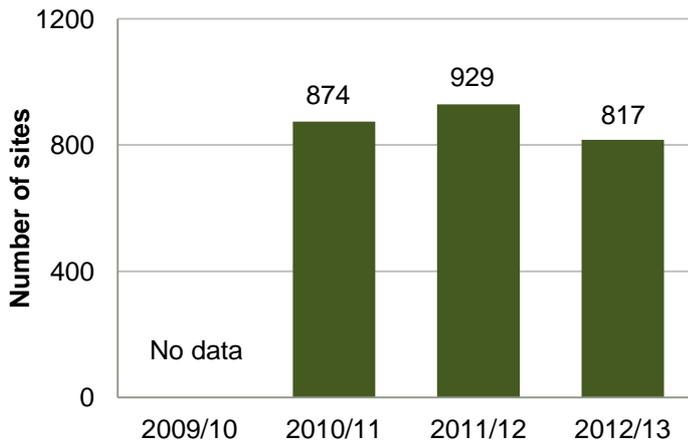
**Figure 18**  
Illegal waste sites that we knew about at the end of each reporting period, England



**Figure 19**  
Illegal waste sites stopped, England



**Figure 20**  
**New illegal waste sites identified, England**

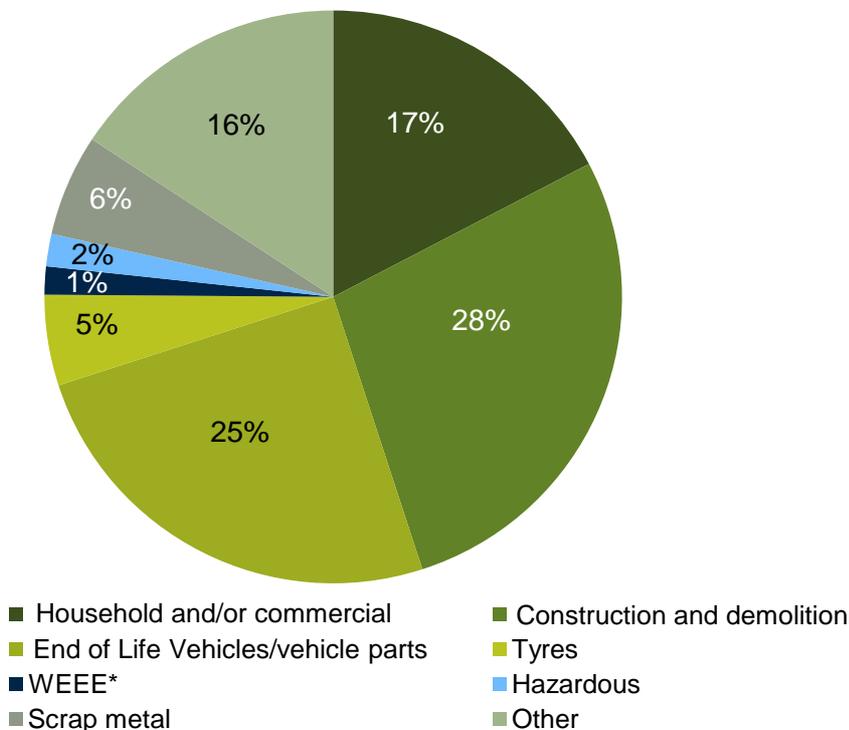


## 4.2. Type of waste

Over a quarter (28%) of the illegal waste sites we knew about at the end of March 2013 dealt with construction and demolition waste, 25% dealt with end-of-life vehicles and vehicle parts, and 17% dealt with household or commercial waste (figure 21). These figures are very similar to last year's results.

**Figure 21**

**Types of active illegal waste sites March 2013, England**



Number of sites = 820

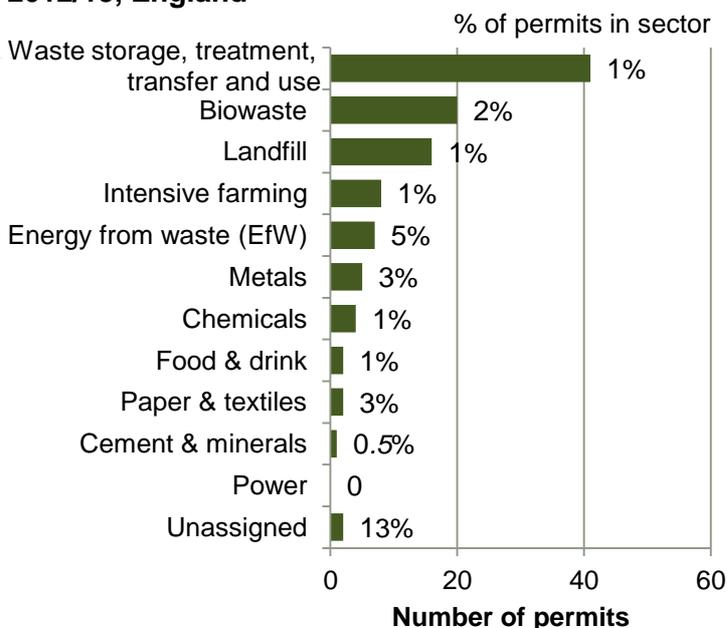
\*Waste electrical and electronic equipment

## 5. Sites of high public interest

Sites of high public interest are those that generate complaints or concerns in local communities. We focus on these sites and provide our local teams with additional technical, legal and managerial support to reduce the impact on the local community.

- There were 135 active sites of high public interest in England at the end of the 2012-2013 financial year. There were 159 at the same point in 2011-2012.
- 108 of the 135 sites were permitted, compared to 120 at the same point last year. The remaining 27 do not have permits.
- Of the 27 that do not have permits, 11 have submitted applications; eight are at a pre-application stage; three are exempt; two are illegal waste sites and three others are unclassified.
- The majority of sites of high public interest are those dealing with waste storage, treatment, transfer and use. However, this is only 1% of all permitted sites in the sector.
- The energy-from-waste sector had seven sites of high public interest; these represented 5% of the permits in the sector, the highest proportion of any sector (fig 22).

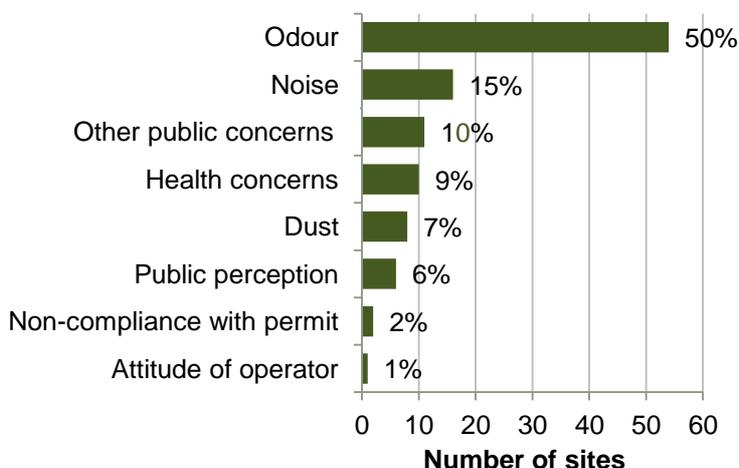
**Figure 22**  
Permitted active sites of high public interest Q4 2012/13, England



### Causes for public concern

- Odour was the primary concern at half of permitted sites of high public interest (54 of 108), followed by noise (15%) and other public concerns (10%) including flies, fires, site capacity and air quality (figure 23).
- Almost half of permitted sites of high public interest (53 of 108) were in bands D, E or F for permit compliance, compared to almost a third (35 of 120) last year.
- Odour was the main concern for all sectors except metals, energy from waste, cement and minerals, and paper and textiles. The main concern with the metals sites was noise; for energy-from-waste it was health concerns; for cement and minerals it was public perception; and for paper and textiles it was health concerns and noise.

**Figure 23**  
Primary concern at permitted sites of high public interest Q4 2012/13

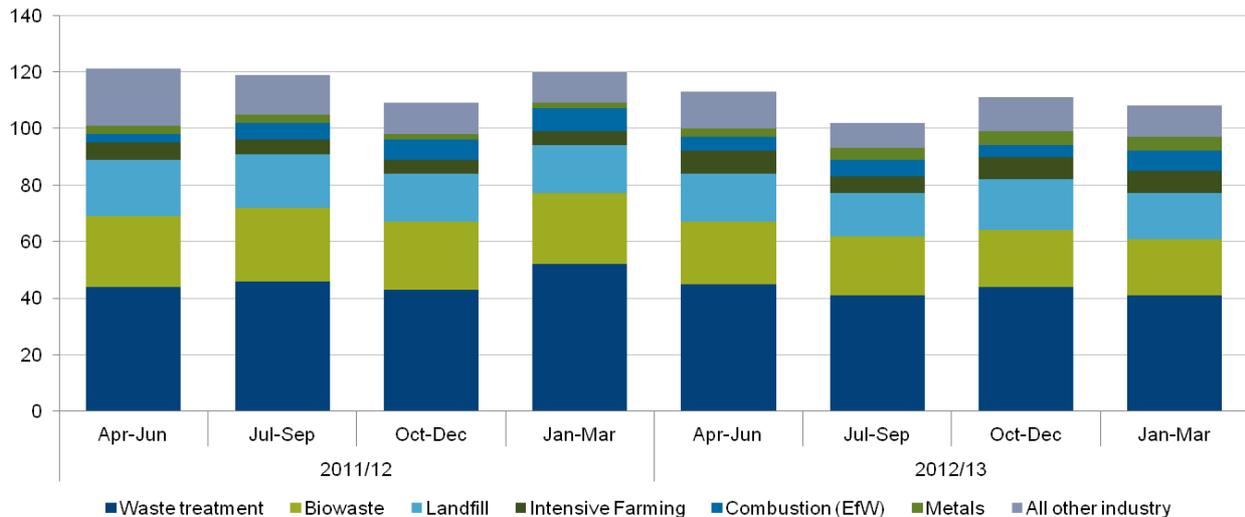


## 5.1. Trends

- Throughout 2011-2013, waste activities accounted for 76%-85% of all permitted sites of high public interest (figure 24).
- At the end of 2012-2013 (financial year), 78% of permitted sites of high public interest were involved in waste activities (84 of 108), compared to 85% of permitted sites (102 of 120) at the same point in 2011-2012.

**Figure 24**

**Permitted sites of high public interest by quarter (2011-13), England**

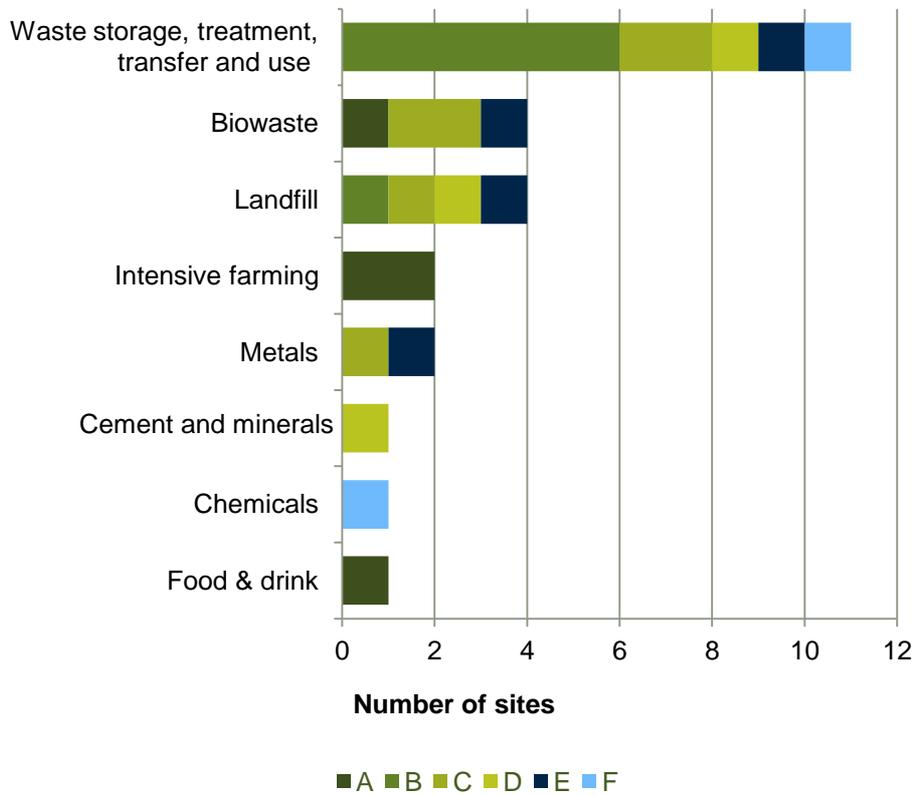


## 5.2. Persistent sites of high public interest

- 26 permitted sites were designated as high public interest in every quarter for the last two years. This group of sites accounted for almost a quarter of all permitted sites of high public interest (26 of 108) at the end of the 2012-2013 financial year.
- More than a third of all persistent sites of high public interest (9 of 26) were rated D, E or F for compliance; 7 of these were also rated D, E or F in 2011 (figure 25).
- 42% of persistent sites of high public interest were from the waste storage, treatment, transfer and use sector (11 of 26), yet most of them (8 of 11) were rated B or C for compliance.
- Odour was the main concern at 65% (17) of these sites.

**Figure 25**

**Permit compliance at persistent sites of high public interest 2011-13, England**



**Note:** following scrutiny of the activities being undertaken under the permit identified in Figure 25 as being in the chemicals sector, it will be reallocated to the waste sector. This change will take effect in 2013 data.

## 6. Releases to air and water

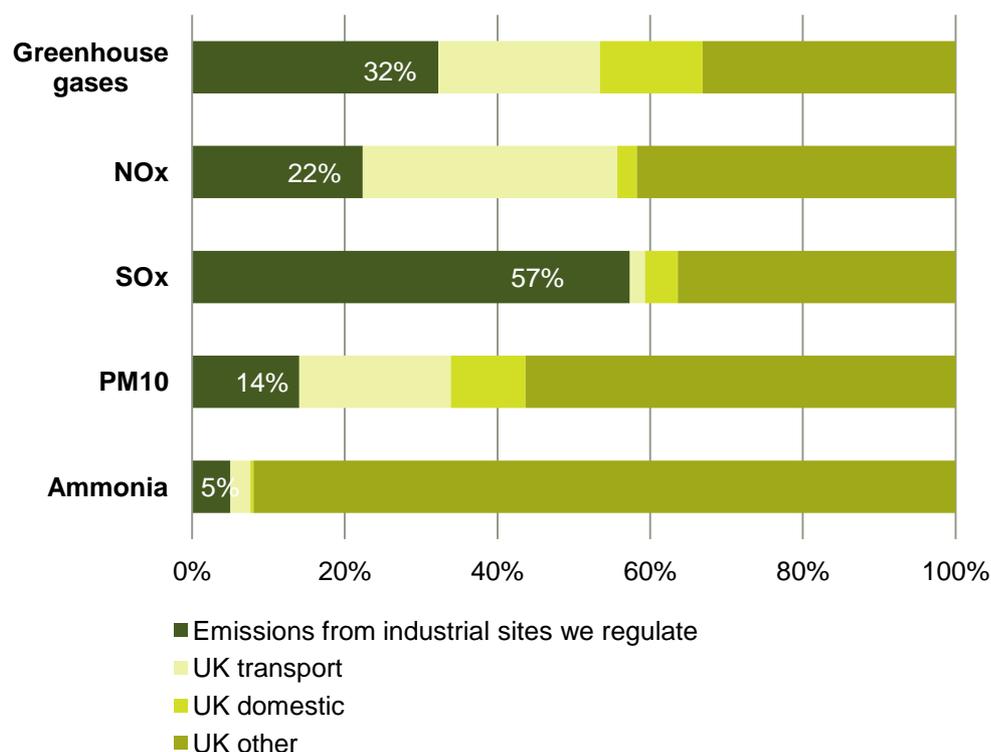
The industrial sites we regulate are responsible for a significant proportion of potentially harmful substances being released to air and water. We keep an annual record of these substances as well as material transferred off-site as waste.

### 6.1. Releases to air from the industrial sites we regulate

- The industrial sites we regulate in England are responsible for 32% of greenhouse gases, 22% of nitrogen oxides (NO<sub>x</sub>), 57% of sulphur oxides (SO<sub>x</sub>), 14% of fine particles (PM<sub>10</sub>) and 5% of ammonia released to air in the UK (figure 26).
- Other industry (including industrial sites regulated by other UK agencies), domestic sources and transport are the other main contributors to emissions to air in the UK.

**Figure 26**

**Emissions to air from industrial sites we regulate in England as a percentage of UK emissions, 2011**



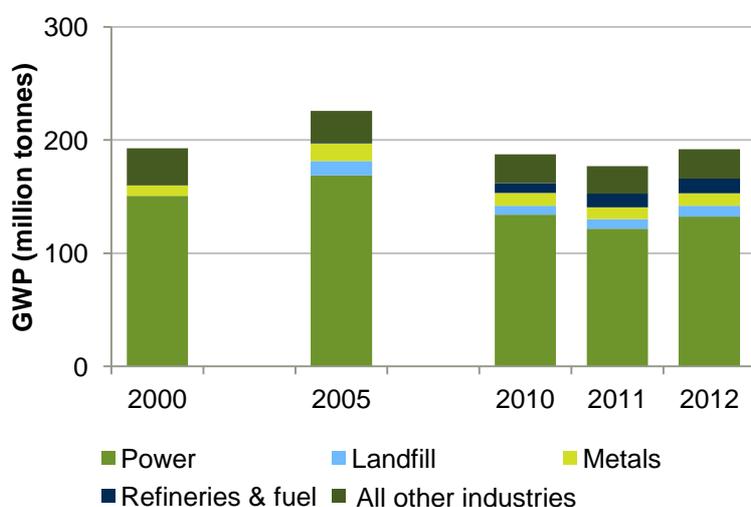
**Note:** the most recent UK emissions data available is for 2011. In this graph, this has been matched to Environment Agency 2011 emissions data for the industrial sites we regulate in England.

## Greenhouse gas releases

- Greenhouse gas emissions are reported as global warming potential (GWP) (carbon dioxide equivalents).
- Greenhouse gas emissions increased by 8% between 2011 and 2012, reversing a downward trend since 2007 (figure 27).
- The increase is due to a 9% increase in emissions from the power sector.
- 69% of emissions from the sites we regulate came from the power sector, 7% came from the refineries and fuel sector and 6% from the metals sector.
- Emissions in 2012 were 0.5% higher than in 2000.

**Figure 27**

**Emissions to air from industrial sites we regulate in England: greenhouse gases (as global warming potential)**

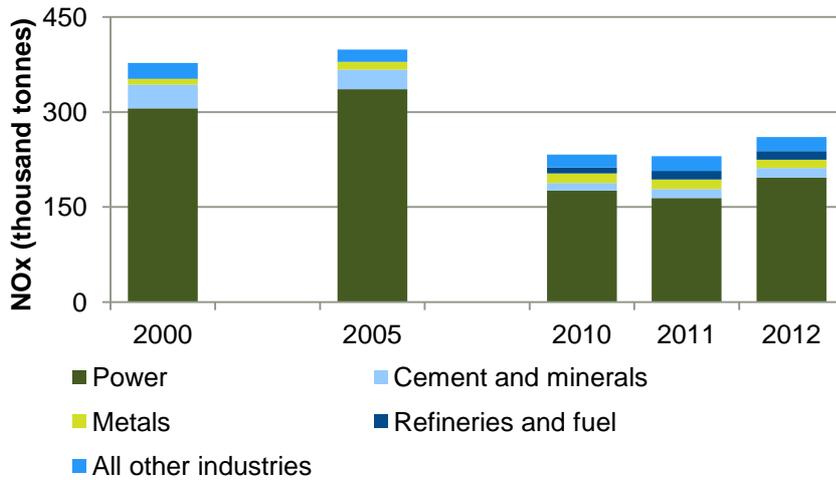


Releases from sectors that contribute <5% towards the total release of GWP have been added together under the title 'All other industries'

## Nitrogen oxides (NOx)

- Emissions of NOx increased by 13% between 2011 and 2012. Emissions from the power sector increased by 20% and from the cement and minerals sector by 3%. There was a reduction of 11% from the metals sector (figure 28).
- 76% of NOx emissions from industrial sites we regulate came from the power sector in 2012. 6% came from the cement and minerals sector and 5% from both the metals and refineries and fuel sectors.
- There has been a 31% reduction in emissions of NOx since 2000.

**Figure 28**  
**Emissions to air from industrial sites we regulate in England: nitrogen oxides (NOx)**

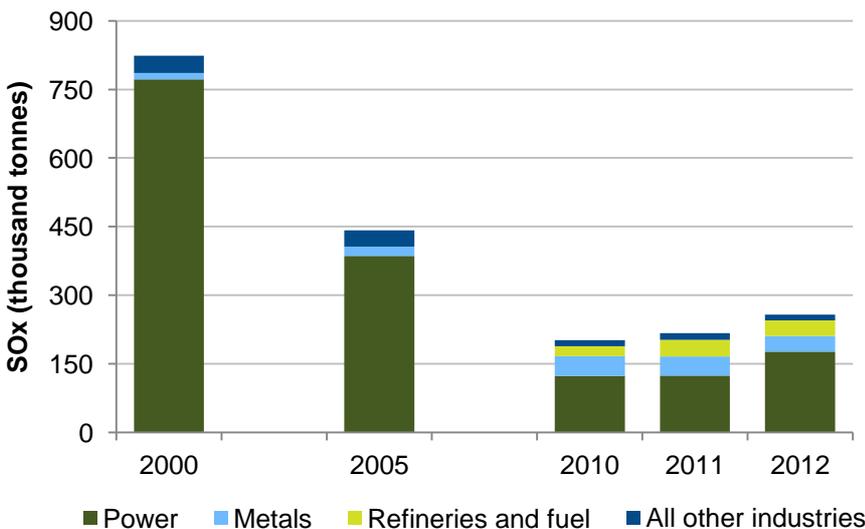


Releases from sectors that contribute <5% towards the total release of NOx have been added together under the title 'All other industries'

### Sulphur oxides (SOx)

- Emissions of SOx increased by 19% between 2011 and 2012, but have fallen 69% since 2000 (figure 29).
- 69% of sulphur oxide emissions from sites we regulate came from the combustion sector, 13% came from both the metals and refineries and fuel sectors.
- The recent increase is largely within the power sector (42%).
- There was a reduction of 19% in the metals sector and 5% in the refineries and fuel sector between 2011 and 2012.

**Figure 29**  
**Emissions to air from industrial sites we regulate in England: sulphur oxides (SOx)**

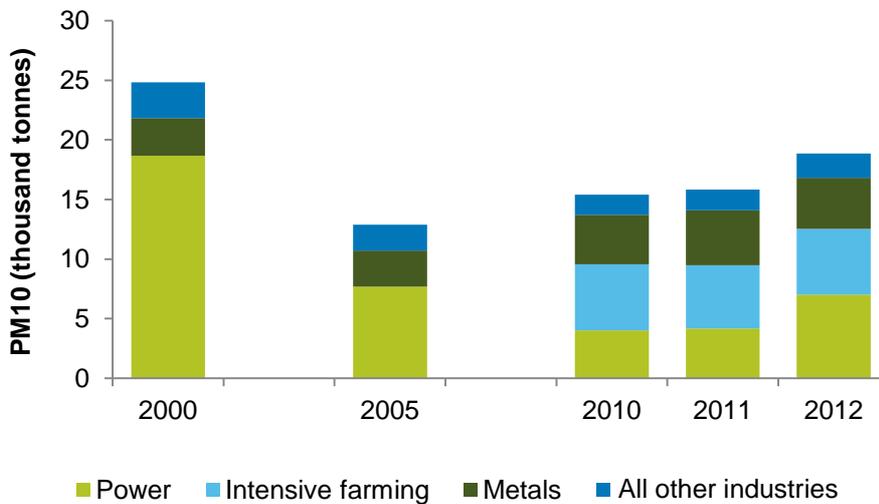


Releases from sectors that contribute <5% towards the total release of SOx have been added together under the title 'All other industries'

## Fine particles (PM<sub>10</sub>)

Figure 30

Emissions to air from industrial sites we regulate in England: fine particles (PM<sub>10</sub>)



Releases from sectors that contribute <5% towards the total release of PM<sub>10</sub> have been added together under the title 'All other industries'

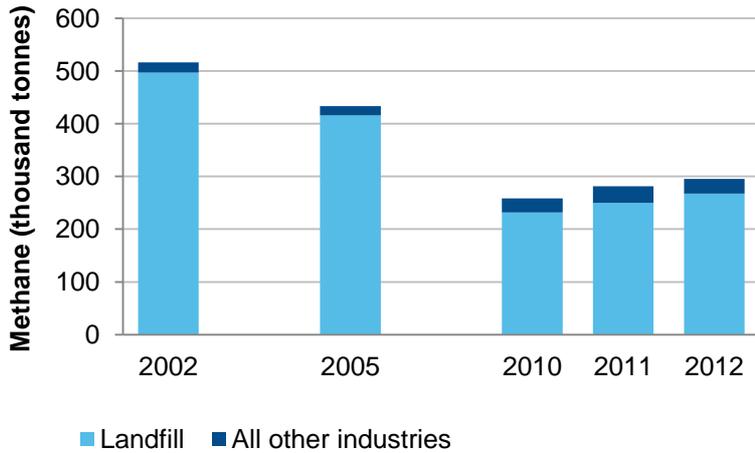
**Note:** intensive farming was first included in permitting in 2007. The method used to calculate emissions of fine particles from intensive farming may be overestimating them - we are looking into this.

- Emissions of fine particles from industrial sites we regulate increased by 14% between 2011 and 2012, but have decreased by 27% since 2000 (figure 30).
- In 2012, 34% of PM<sub>10</sub> emissions from industrial sites we regulate came from the power sector; 31% came from the intensive farming sector; 24% came from the metals sector; and the remaining 11% from all other industries.
- Recent increases, since 2011, have been in the power and intensive farming sectors (48% and 4% respectively).
- Releases from the metals sector have decreased by 7% since 2011.

## Methane

- Emissions of methane from industrial sites we regulate increased by 5% between 2011 and 2012 (figure 31).
- 91% of methane emissions from industrial sites we regulate were from the landfill sector.
- There was a 7% increase from operational landfill sites and a 12% reduction from all other sectors.

**Figure 31**  
**Emissions to air from industrial sites we regulate in England: methane**

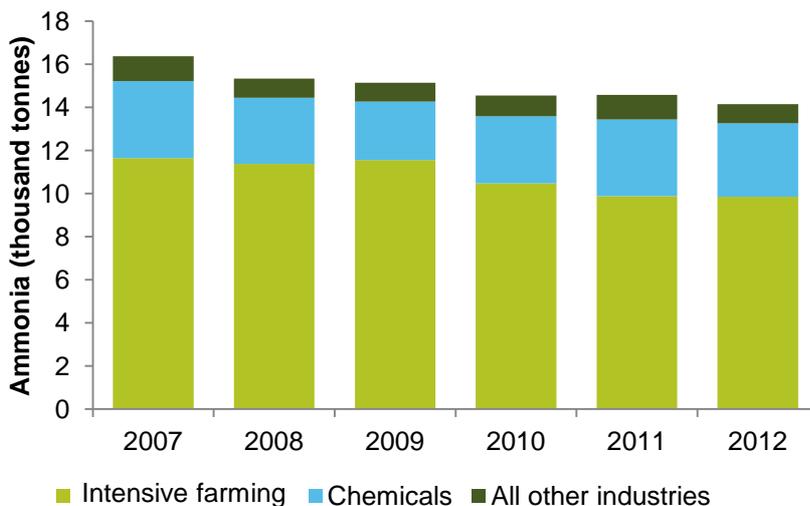


Releases from sectors that contribute <5% towards the total release of methane have been added together under the title 'All other industries'

## Ammonia

- Ammonia emissions decreased by 3% between 2011 and 2012 and have fallen by 13% since 2007 (the first year of recording) (figure 32).
- In 2012, 69% of ammonia emissions from industrial sites we regulate came from the intensive farming sector and 24% came from the chemicals sector.
- There was no change in emissions from the intensive farming sector between 2011 and 2012. There was a 4% reduction from the chemicals sector.

**Figure 32**  
**Emissions to air from industrial sites we regulate in England: ammonia**



Releases from sectors that contribute <5% towards the total release of ammonia have been added together under the title 'All other industries'

## 6.2. Releases to water from the industrial sites we regulate

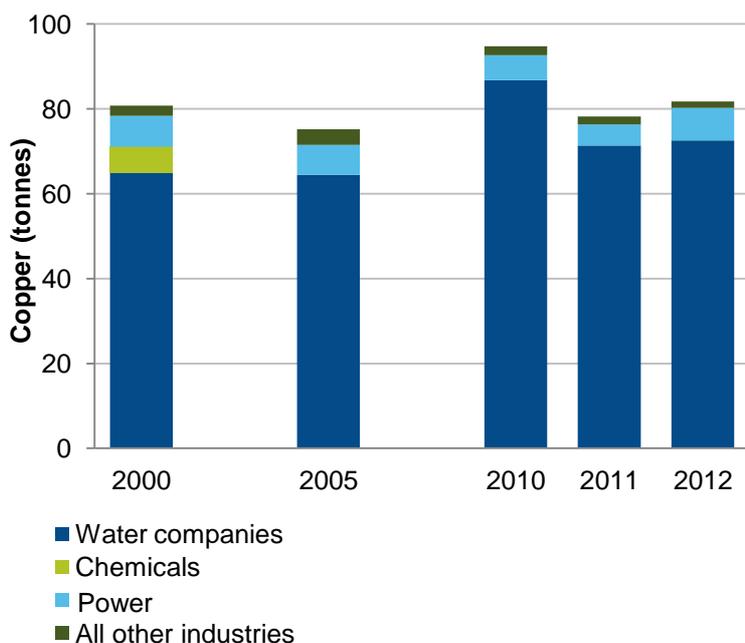
The substances presented here make a significant contribution to the reasons water bodies fail to reach status objectives under the Water Framework Directive, due to the presence of potentially harmful chemicals. The majority of releases of pollutants to water from the industrial sites we regulate are attributed to water companies. However, they may not be the original source, as most releases are from sewage treatment works handling wastewater from a number of sources.

### Copper

- In 2012, 82 tonnes of copper were released to water by the industrial sites we regulate. This is a 5% increase on 2011 (78 tonnes) and is similar to the amount released in 2000 (81 tonnes) (figure 33).
- 89% (73 of 82 tonnes) of all copper releases to water from the industrial sites we regulate were from water companies.
- 9% (7.6 of 82 tonnes) of copper releases to water were from the power sector – up from 6% (5 of 78 tonnes) in 2011.

**Figure 33**

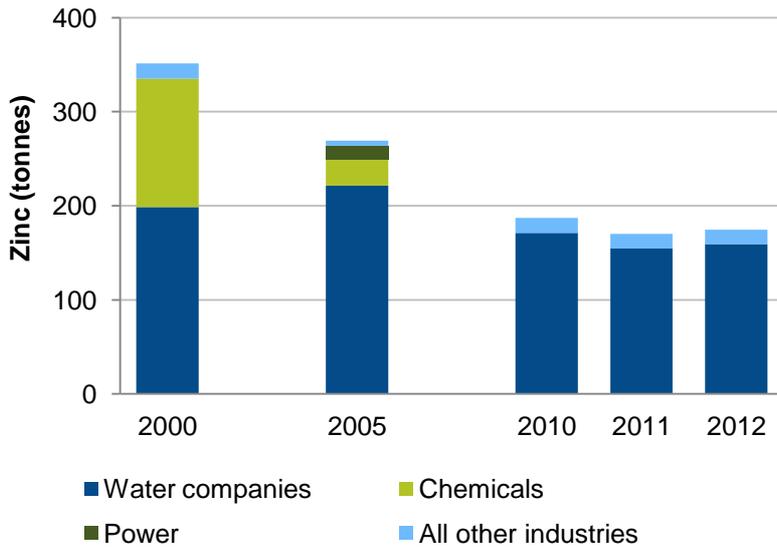
**Releases to water from industrial sites we regulate in England: copper**



### Zinc

- In 2012, 175 tonnes of zinc were released to water by the industrial sites we regulate. This is a 2% increase on 2011 (170 tonnes) but is less than half the amount of zinc released to water in 2000 (351 tonnes) (figure 34).
- 91% (160 of 175 tonnes) of all zinc releases to water from the industrial sites we regulate were from water companies.

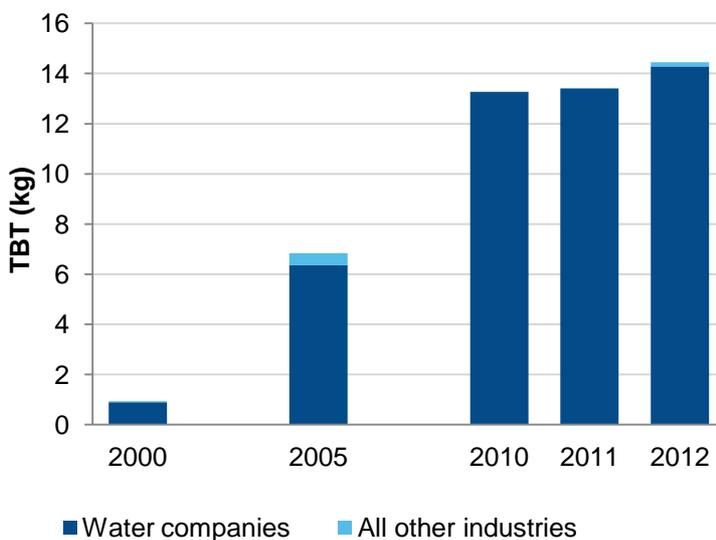
**Figure 34**  
**Releases to water from industrial sites we regulate in England: zinc**



### Tributyltin (TBT)

- In 2012, 14kg of TBT was released to water by the industrial sites we regulate – double the amount released in 2005 (7kg) (figure 35).
- Virtually all releases of TBT to water from the industrial sites we regulate came from water companies (99%).
- Whilst the trend shows that estimated releases of TBT from industrial sites we regulate have doubled since 2005, this is mainly due to better information on the TBT content of sewage effluent.

**Figure 35**  
**Releases to waters from industrial sites we regulate in England: Tributyltin and compounds – as TBT**

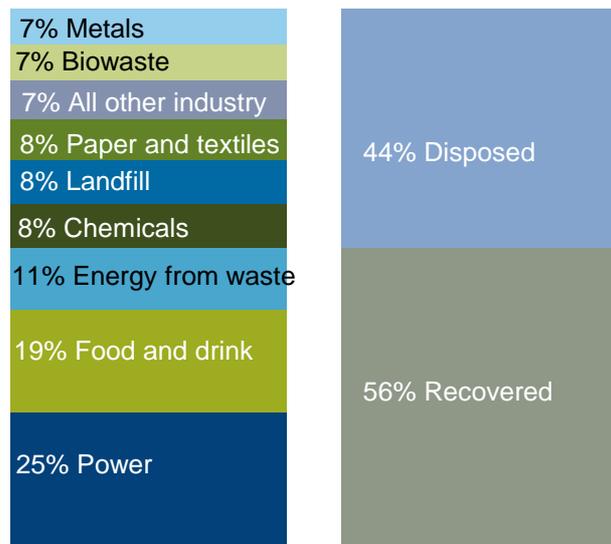


# 7. Waste produced by the industrial sites we regulate

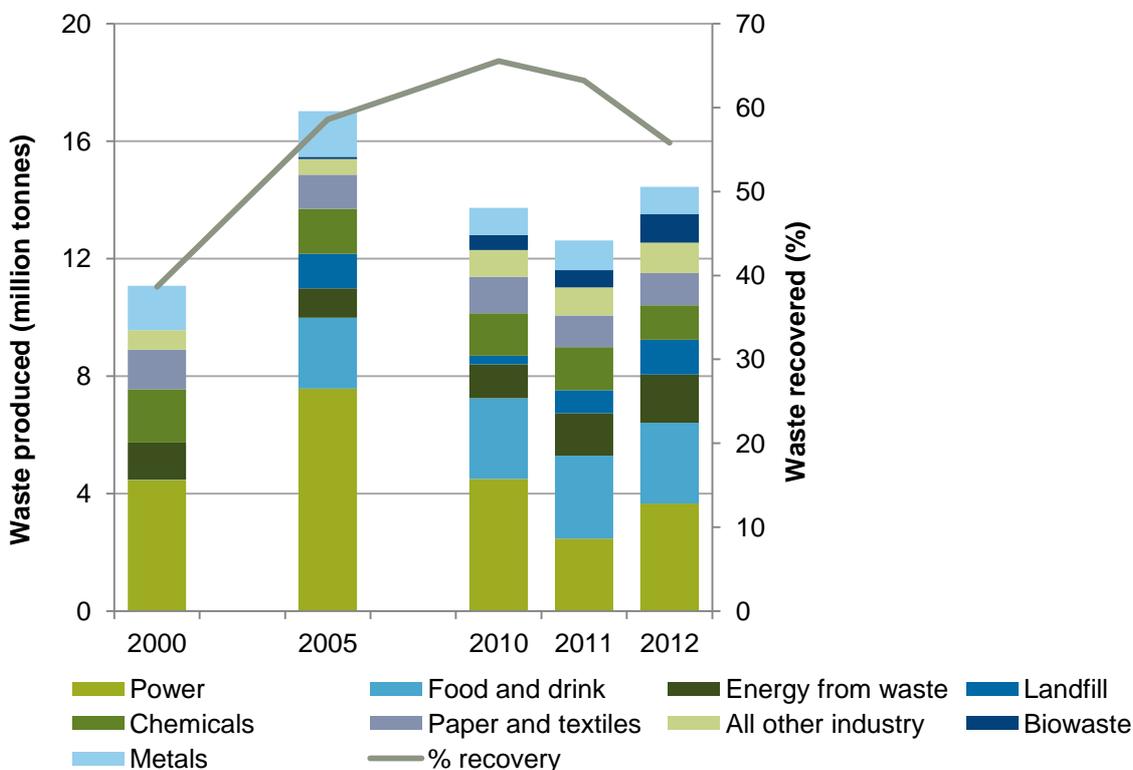
## 7.1. Waste produced

- In 2012 the industrial sites we regulate produced 14.4 million tonnes of waste; this is a 14% increase on the 12.6 million tonnes produced in 2011 (figure 37).
- This is largely due to a 49% increase in waste produced by the power sector (2.5Mt to 3.7Mt). In 2012 the power sector produced 25% (3.7Mt) of all waste from the industrial sites we regulate (figure 36).
- Annual waste production increased by 30% (11.1Mt to 14.4Mt) between 2000 and 2012.

**Figure 36**  
Waste produced by the industrial sites we regulate in England: 14.4 million tonnes of waste in 2012



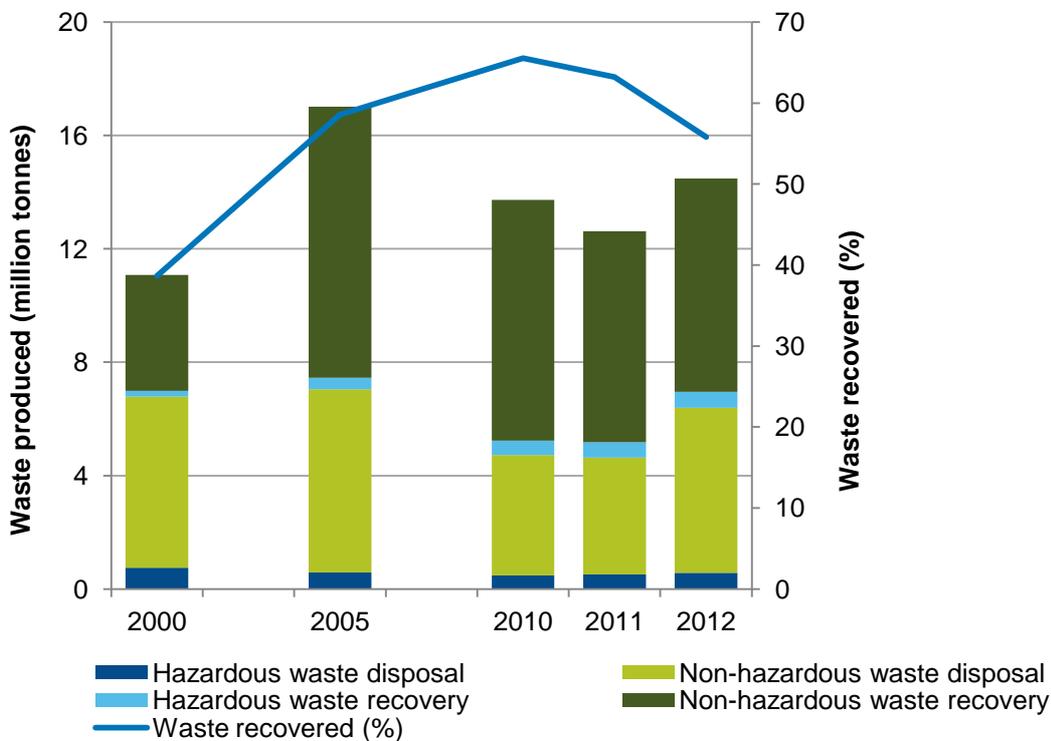
**Figure 37**  
Waste produced by the industrial sites we regulate in England



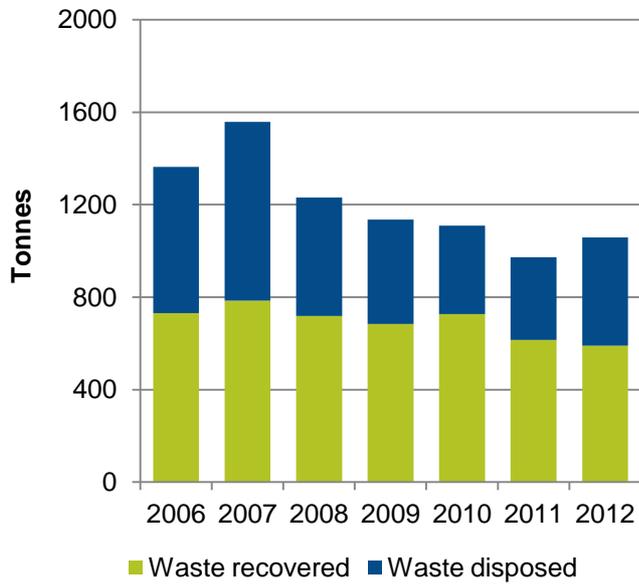
## 7.2. Waste recovered

- In 2012, the industrial sites we regulate recovered 8.1Mt (56%) of the waste they produced; this is a slightly higher tonnage, but a lower overall proportion than the 7.9Mt (63%) recovered in 2011.
- This has increased from the 39% (4.3Mt) recovered in 2000, but has decreased from a high of 66% (9Mt) in 2010 (figure 38).
- 51% (0.56Mt) of hazardous waste was recovered in 2012 compared with 21% (0.20Mt) in 2000. This is the same proportion (51%) as was recovered in both 2010 (0.51Mt) and 2011 (0.54Mt).
- 56% (8Mt) of non-hazardous waste was recovered in 2011 compared with 39% (4.3Mt) in 2000.

**Figure 38**  
Waste disposed and recovered by the industrial sites we regulate in England



**Figure 39**  
**Average (mean) waste produced and recovered per permit in England**



The amount of waste produced by different sites can vary substantially depending on the activity.

## 8. Prosecutions

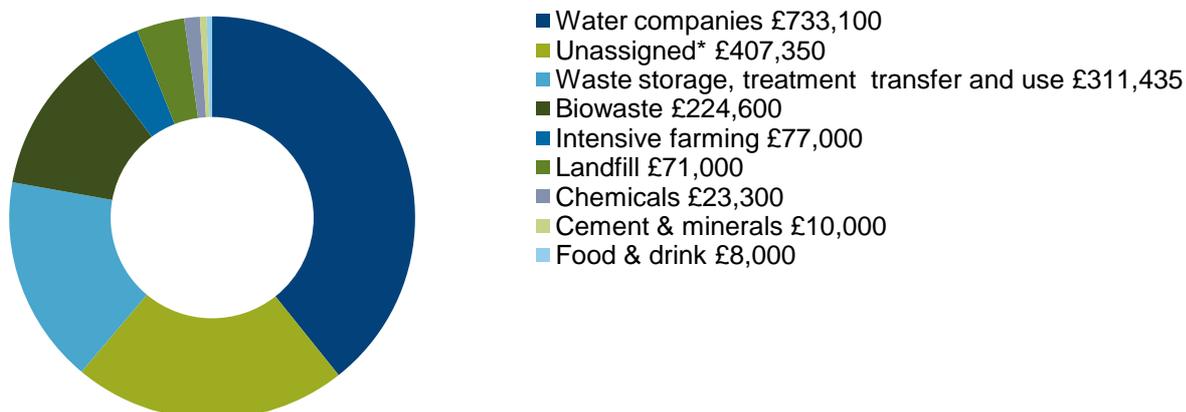
Where businesses are not meeting their legal obligations we will offer advice and guidance to encourage compliance with permit conditions. We may decide to pursue enforcement action following a pollution incident to tackle persistent and/or serious permit breaches or non-compliance with legislation.

- Businesses were fined a total of £1.9 million in 2012 compared to £3.6 million in 2011.
- The average fine in 2012 was £21,000. This is similar to the average fine in 2011 (£22,000) but more than double the average fine in 2007 (£10,000).
- Water companies were fined the most in 2012 (£733k); this was 39% of total fines.
- Fines of businesses involved in waste activities (waste storage, treatment, transfer and use, biowaste and landfill) represented almost a third of total fines (£607k).
- No businesses in the paper and pulp, textiles, power, refineries and fuel, energy from waste and metals sectors were prosecuted in 2012.

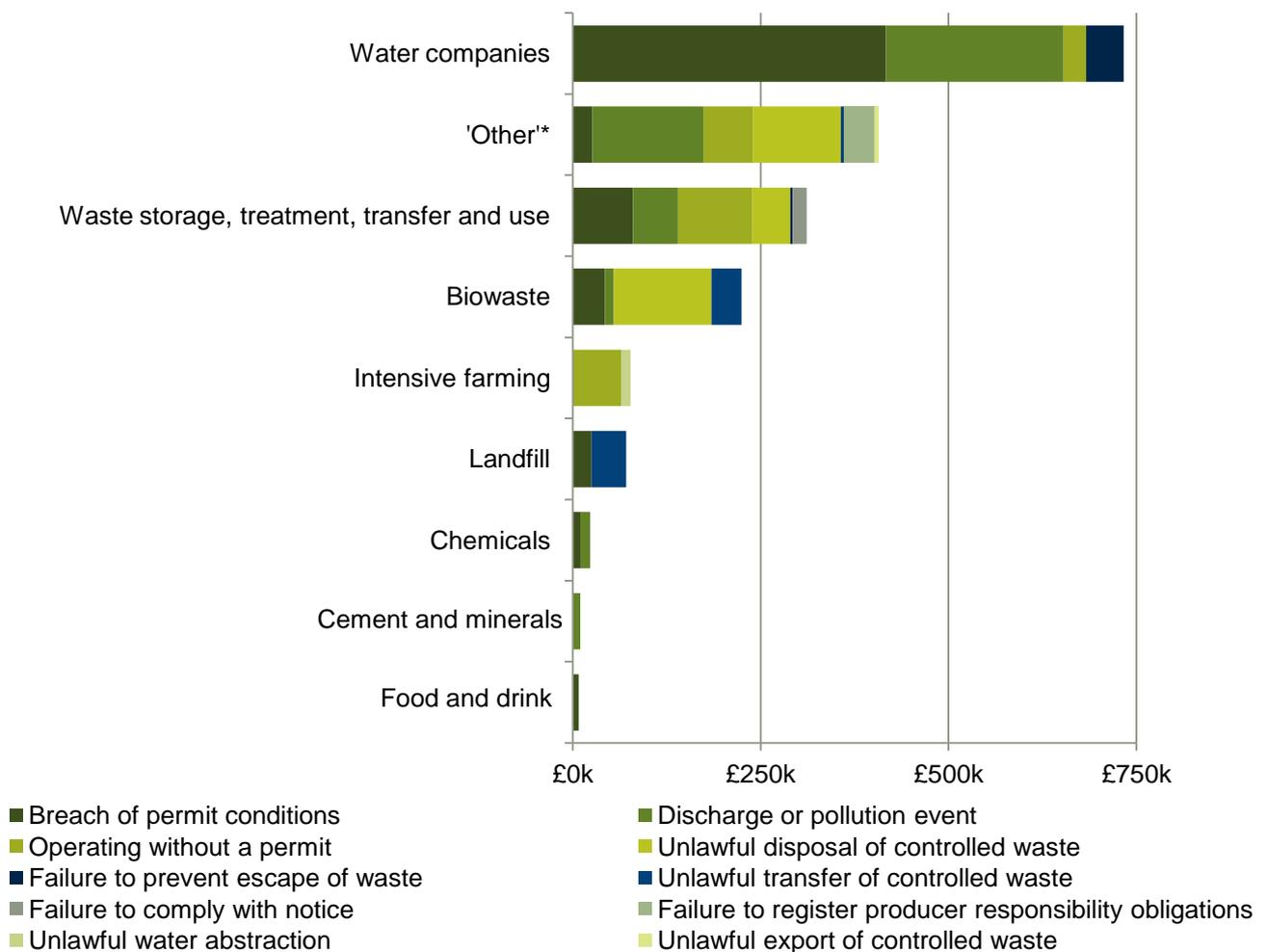
### 8.1. Reasons for prosecution

- More than half of the fines received by businesses in 2012 (£1.1 of £1.9 million) were for breach of permit conditions (33%) and discharge or pollution incidents (26%).
- Breach of permit conditions by the water companies was the reason for £417k (57%) of the total fines of £733k they received.
- 25% of fines on businesses from sectors we regulate (£180k) were for unlawful disposal of waste. The biowaste sector was fined the most for this reason (£130k).

**Figure 40**  
**Fines imposed for environmental offences prosecuted in 2012, England**



**Figure 41**  
**Reasons for prosecution of businesses for environmental offences 2012, England**



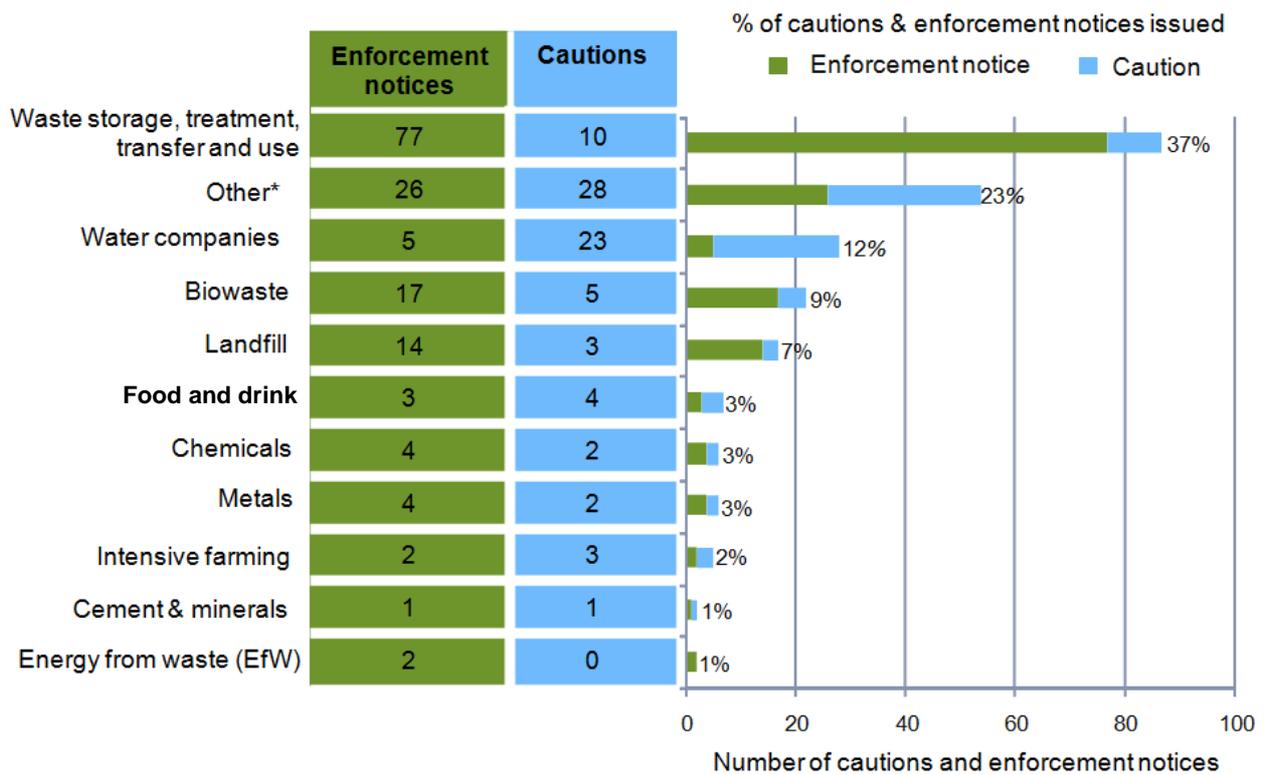
\*'Other' includes industry sectors that we don't regulate: services, retail and wholesale and transport

## 8.2. Enforcement notices and cautions

Cautions are formal criminal sanctions and will be produced in court if there is further offending. They are intended to be a specific deterrent to prevent further offending and are suitable for cases where, although a prosecution could be initiated, other factors mitigate against this. Enforcement notices are civil sanctions issued by us to bring offenders back into compliance, to address any damage caused to the environment, or to stop any activity likely to harm human health and/or the environment.

- 184 separate businesses were issued a total of 236 enforcement notices and cautions in 2012.
- The waste storage, treatment, transfer and use sector accounted for over a third (87 of 236) of sanctions issued, but this sector has more than three times the number of permits (7,906) as the next largest sector.
- The paper and pulp, power, textiles and refineries and fuel sectors received no enforcement notices or cautions in 2012.
- 23 of 28 sanctions issued to water companies were cautions, whereas most sanctions issued to businesses in other sectors were enforcement notices. This is because the legislation we use to regulate water companies is different from the legal provisions we use for other businesses.

**Figure 42**  
**Company cautions and enforcement notices by sector, England, 2012**

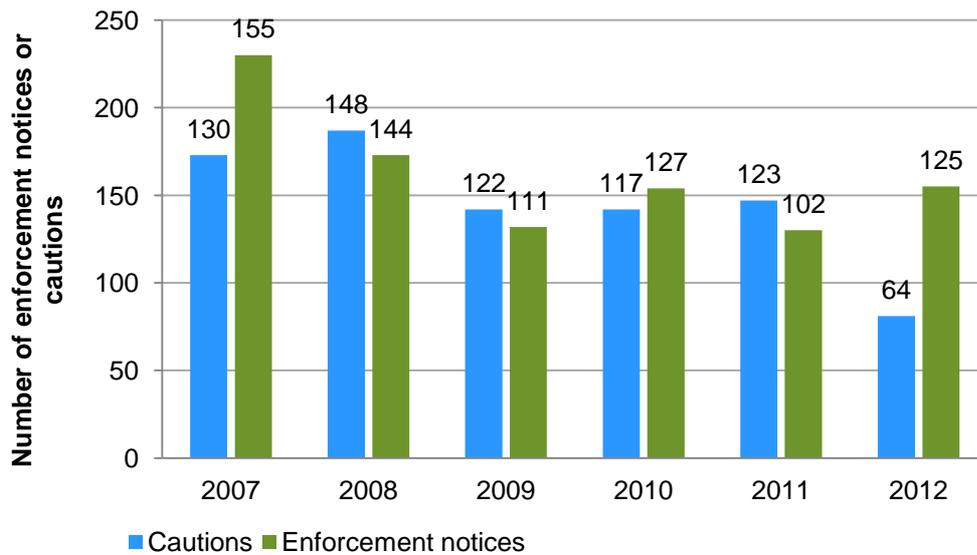


\*'Other' includes industry sectors that we don't regulate: services, retail and wholesale and transport.

### 8.3. Trends in enforcement notices and cautions

- 81 cautions were issued in 2012, a decrease of 45% since 2011 (147) and less than half the number issued in 2007 (173).
- 155 enforcement notices were issued in 2012, an increase of 19% since 2011 (130) but a 33% decrease on the number issued in 2007 (230).

**Figure 43**  
**Total cautions and enforcement notices issued to businesses for environmental offences: 2007-12, England**



**Note:** the numbers on top of the bars indicate the number of unique businesses issued cautions/notices.

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