

Regulating for people, the environment and growth

December 2017

This summary covers England and is for the calendar year 2016. Where data is only available by financial year, it is based on the financial year April 2016 to March 2017.

Chief executive's foreword

The Environment Agency regulates a wide range of activities that affect the environment, people and the economy in England, from large industries to small companies and individuals. For our country to prosper we need to protect people and the environment, as well as support our industries to grow and innovate. As a regulator, we work to protect public health, improve air, land and water quality, and apply the environmental standards and regulation within which industry can operate. We work closely with a wide range of partners including government, businesses, local authorities, other agencies and the communities we serve. Government requirements, technology and customer expectations also mean we need to innovate and adapt to retain our reputation as a modern, effective and respected regulator.

We focus our efforts where we can have the most impact, and we know that well-targeted and proportionate regulation is effective. Our waste crime intervention and evaluation programme demonstrated that for every £1 invested, £5 of benefits were generated, while changes in the way we implement regulations saved businesses £12 million in 2016.

But targeting our resources and prioritising on the basis of risk inevitably means that there are some things we cannot or struggle to do. For example, we do not routinely visit a proportion of sites that we regulate, and we focus on pollution incidents where we can make the most difference or where we feel follow-up enforcement action may be required. Similarly, despite our efforts, we are currently finding as many new illegal waste sites each year as we are managing to shut down. We have been working with the government and our partners seeking ways to drive down waste crime and are pleased that the government has invested an additional £30 million over 4 years in our work.

Businesses we regulate can expect us to be proportionate, efficient and easy to interact with. In return, we expect businesses to take their share of responsibility, take action to reduce their impact on the environment and fully comply with their legal requirements. In 2016, nearly three-quarters of serious pollution incidents at sites with permits were preventable, and the farming sector continues to cause the highest number of serious pollution incidents overall. Businesses and householders need to ensure their waste is handled correctly, and that no polluting materials are inappropriately disposed down the drain.

The government's recently published Clean Growth Strategy will bring government, businesses and society together to work on the transition to a low carbon economy. Achieving clean growth means growing our national income while cutting greenhouse gas emissions. Our modern approach to regulation will support actions set out in the strategy to cut emissions, increase resource efficiency working towards zero avoidable waste, lower the amount spent on energy, and help to protect the climate and environment. Only by working together will we achieve our ambition to have a cleaner, healthier environment that benefits people and supports the economy.

Sir James Bevan, Environment Agency Chief Executive

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Our role and approach

As a regulator we are responsible for implementing environmental regulations and standards set by government. We do this in a fair and balanced way, working to protect public health, natural resources and the environment, while supporting business and sustainable economic growth. Our role includes:

- monitoring and providing evidence on the state of the environment, to advise and inform government and others on policy development
- issuing permits to businesses and individuals, and setting standards so that businesses operate without harming people and the environment
- reviewing permits and guidance to make sure they are up to date and meet revised standards
- checking businesses and individuals comply with regulations and their permits
- investigating incidents and complaints
- stopping criminal and illegal activities that blight communities and the local environment
- using influence, advice and other complementary approaches to help businesses and industries achieve and maintain compliance with regulations and permits
- using appropriate proportionate sanctions and enforcement actions to bring businesses back into compliance, and using the full force of the law to crack down on illegal activities
- working closely with regulators who manage other environmental impacts such as local air quality, development, agriculture and major industrial accidents - this includes local authorities, Natural England, the Marine Management Organisation, and the Health and Safety Executive

Main facts

- The number of persistently poorly managed sites is down 18% compared to 2015.
- In the financial year 2016 to 2017, we stopped illegal waste activity at 824 sites; more than 2 a day.
- Since 2000, emissions from the industries we regulate of:
 - nitrogen oxides (NOx) have decreased by 71%
 - sulphur oxides (SOx) have decreased by 93%
 - small particles (PM10s) have decreased by 50%
 - greenhouse gases have decreased by 39%
- In 2016, a record 98.5% of bathing waters passed quality standards; good news for the 146 million people that flock to Britain's beaches every year.
- Waste recovery from the sites we permit was the highest recorded at 67%.
- Twenty years ago nearly all waste went to landfill. Now most is beneficially re-used or used for energy generation.
- In 2016, we supported businesses by issuing almost 3,000 new permits.

Regulation is a vital part of protecting our environment. Natural capital is a way of measuring environmental assets that provide benefits or value to people, such as the stocks of forests, water, land, minerals and oceans. Damage to the environment is reflected in the decline of natural capital assets. Protecting our natural capital is important because it adds to the country's gross domestic product (GDP), affects our economy's ability to grow, and impacts human health and wellbeing. Expressed as an asset value over the next 25 years, the UK natural capital is estimated to be worth £1.6 trillion.¹

Regulation, and our implementation of it, has played a major role in reducing environmental emissions from businesses. Emissions of sulphur oxides to air from the facilities we regulate are one-tenth of what they were in 2000, nitrogen oxides are one-third, and fine particles (PM10s) one-half. The industries we regulate now recover two-thirds of the waste they produce and businesses are better managed with more well-run sites and fewer persistently poorly operated sites.

Ways we have supported business include:

- taking decisive action to improve compliance of poorer performing businesses, and closing down illegal sites to help create a level playing field for good performers
- introducing more standard rules permits, saving businesses time and money
- reducing the time we take to determine permit applications, and at the same time improving the quality of applications
- introducing a number of waste quality protocols designed to promote re-use
- introducing modern digital systems to allow businesses to register their activities online, and carry out their business faster
- simplifying our advice and guidance
- introducing a third party assurance scheme for intensive pig and poultry farms to reduce costs and increase biosecurity
- working with other regulators to streamline regulation in the agriculture and chemicals sectors
- working closely with other nuclear sector regulators, including the Office of Nuclear Regulation and Natural Resources Wales, contributing to securing £60 billion of investment in new infrastructure

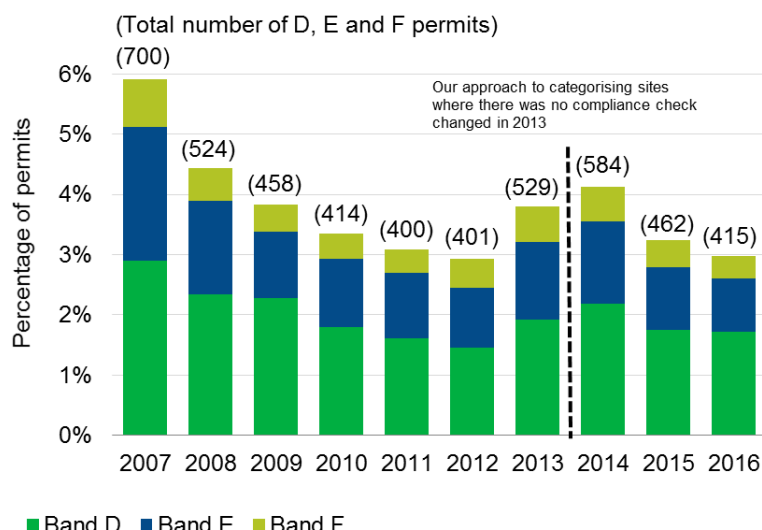
We want our stakeholders to understand that we continue to encounter new and varied challenges in the work we do, and we have limited resources to achieve our ambitions. We try to spot problems before they occur and resolve issues before they escalate, rather than reacting afterwards. This means prioritising our resources based on risk. We focus our efforts where we can have the most impact, and as a result we do not routinely visit a proportion of the sites we regulate.

¹ ONS, Natural capital accounting 2020 roadmap: interim review and forward look
(www.gov.uk/government/statistics/natural-capital-accounting-2020-roadmap-interim-review-and-forward-look).

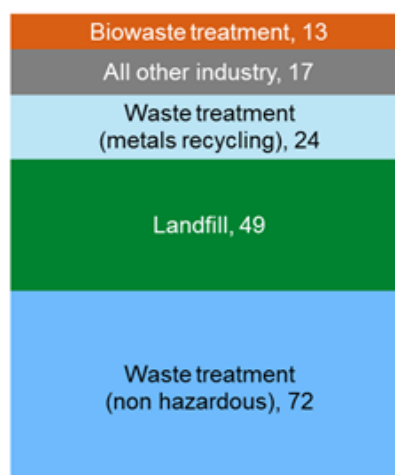
Healthier and safer communities

The majority of the sites we regulate under the Environmental Permitting Regulations (EPR) are well run. In 2016, over 92% of the 14,000 we regulated demonstrated good compliance with their permit conditions and were rated in our highest compliance bands A and B. 415 permits (3%) were rated in the lowest bands, D, E and F. This is an improvement on 2015.

EPR permits rated for poor compliance (all sectors), 2007 to 2016



Persistent poor performers. Permits in compliance bands D, E or F in 2015 and 2016



Poorly managed sites with permits or activities operating outside the law often affect local communities and can cause pollution incidents. They can harm the environment and undermine legitimate business. We focus regulatory action on these sites or high risk operations, bringing them up to standard or closing them down. We also focus our compliance checks on sites that present the greatest risk to the environment and health. Businesses are responsible for their own performance. We audit and make unannounced checks to ensure they are compliant.

Where businesses broke the rules or were operating illegally in 2016, we issued 159 enforcement notices and 45 cautions to bring operators back into compliance, and prosecuted 76 cases.²

Companies were fined a total of £8 million, more than double the £3.6 million in 2015. The average fine per company was £110,000 in 2016 compared to £55,000 in 2015. The single biggest fine was £2 million (issued to Southern Water), compared to £750,000 in 2015. A change in sentencing guidelines in 2014 is now leading to far heavier penalties where appropriate.

² This covers enforcement actions used for waste, water quality and emissions offences by registered companies.

We revoke permits where poorly performing operators persistently and continually breach their permit conditions. We can also refuse permit applications where operators have convictions for environmental offences or where we believe an operator cannot comply with the conditions in the permit. We also refuse applications where the environmental, flood risk or health impacts are unacceptable.

Poor quality applications can prevent or delay businesses from operating or changing their activities. Some applicants choose to withdraw their application before we refuse them, in part because they want to protect their reputation. We're looking at ways applicants can access advice and support to help them submit better quality applications and to assist new operators in putting the right systems in place from the start.

We also have to balance our efforts on high-risk sites and activities with work to ensure we prevent risks from new or existing industry emerging, or poor performance developing. We take robust action against persistent poor performers and operators that cause pollution incidents and have negative impacts on communities.

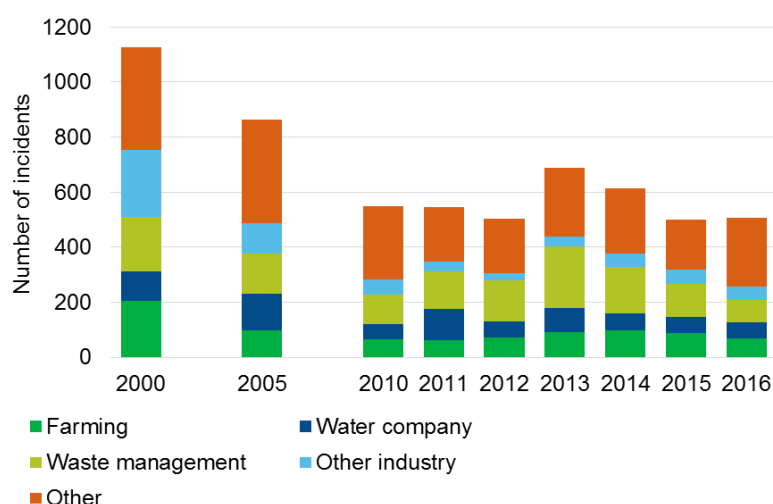
In 2016, the number of persistently poorly managed sites³ fell to 175, down from 213 in 2015. 95% of these sites were in the waste industry, which is by far the largest sector.



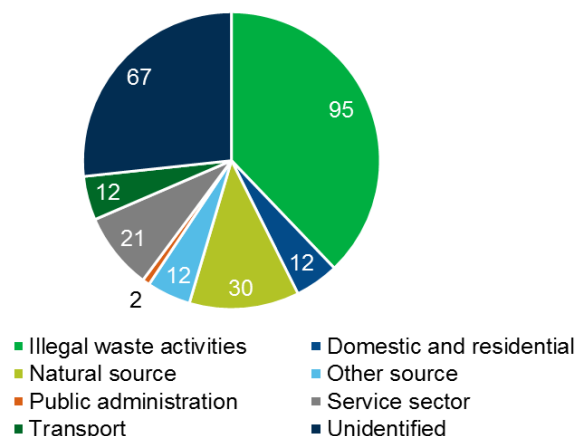
Pollution incidents

The number of serious pollution incidents (categories 1 and 2) in 2016 was 508, up 2% from 2015. Over half of these were caused by non-permitted activities. We were unable to identify a source for 67 serious pollution incidents. Although down 20% compared to 2015, agriculture caused the highest number of serious incidents (70) among non-permitted sectors (and highest overall). Water companies caused the most incidents from permitted sites (57 incidents). Waste management activities, collectively the waste treatment, biowaste, landfill and incineration with energy recovery sectors, caused 80 serious incidents.

All serious pollution incidents (caused by activities we permit and those we don't) in England



Types of 'other' pollution incidents in 2016



³ Persistently poorly managed sites are those where the permit is classed in the more poorly performing Opra bands, D, E or F for 2 or more consecutive years.

Nearly three-quarters of serious pollution incidents at sites with permits were caused by containment and control failures, for example spills and leaks from pipes or tanks. These are preventable, and we expect to see responsible action by business managers.

Illegal waste activities caused 95 serious pollution incidents in 2016, 38% of all 'other' incidents.

In 2017 we reviewed the information on pollution incidents in recent years, taking into account the generally improving trend and the areas where there are continuing challenges. As a result, we are refocussing our work on pollution incidents. Our aim is to bring about continued improvement over coming years, particularly in those sectors where reductions have not yet been as marked as the general trend.

A serious incident can have a significant financial impact on a business in clean-up and enforcement costs, and claims for damages from third parties. Pollution incidents can damage the reputation of businesses and can affect their ability to secure contracts or subsidies.

Incident response continues to put a high demand on our resources. It means that we're unable to attend all of the less serious pollution incidents reported to us, although these can sometimes escalate into more serious events. Early intervention is not always achievable, but the value of being able to do so is high. We focus our efforts where we can have the greatest effect, or where we feel follow-up action such as enforcement is required. We continue to work with the public, government, businesses and partnership organisations to improve our effectiveness.



Waste crime

The economic impact of waste crime in England in 2015 has been estimated to be at least £604 million.⁴ This includes the economic impacts of illegal waste sites, illegal burning of waste, fly-tipping, mis-classification and fraud, serious breaches of permit conditions, and illegal exports of waste. In the financial year 2015 to 2016, an estimated £100 million of tax revenue was lost due to waste operators incorrectly describing their waste in order to pay the lower rate of landfill tax.⁵ Our investigations into the mis-description of waste have uncovered fraud and links to organised crime groups.

⁴ Environmental Services Association Educational Trust, 2017. Rethinking waste crime (www.esauk.org/esa_reports/20170502_Rethinking_Waste_Crime.pdf).

⁵ HM Revenue & Customs (2017) Measuring Tax Gaps 2017 Edition: Tax Gap Estimates for 2015-16, October 2017 (www.gov.uk/government/statistics/measuring-tax-gaps).

Waste crime can:

- pollute the environment
- put communities at risk
- undermine the economic growth of legitimate businesses

In the financial year 2016 to 2017 we stopped illegal waste activity at 824 sites and found over 850 new illegal waste sites. At the end of March 2017, 601 known illegal waste sites were still active. The economic impact of illegal waste sites was estimated at £98 million in 2015.⁶

Over the past 6 years, the number of illegal waste sites has reduced. On average we stop more than 900 illegal sites per year from operating.



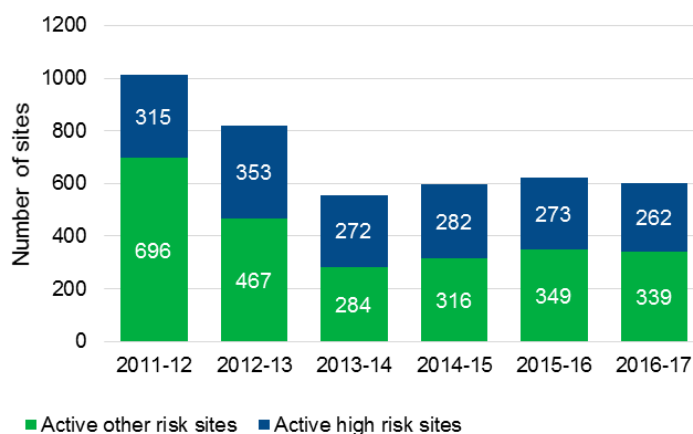
We have a target to stop illegal activity at 45% of newly discovered illegal waste sites within 90 days. Nationally we have exceeded this target for the last 3 years.

Of the 824 illegal waste sites where we stopped activity in the financial year 2016 to 2017, 79 sites brought their activities into regulation.

The top 3 types of waste found at illegal sites in this period were:

- household and commercial waste
- end-of-life vehicles
- construction and demolition waste

Active illegal waste sites



While the funding for tackling waste crime has remained broadly the same for several years, we have recently been allocated an extra £30 million over 4 years to resource our work to drive down waste crime. Waste crime is becoming more organised, involving networks of career criminals, and tackling this type of illegal activity is more complex. As well as resources, it also requires even better partnership working with other enforcement bodies such as the police and HMRC.

We have improved the quality and quantity of our criminal intelligence and have increased the number of inspections of sites suspected of illegal waste exports and of shipping containers prior to export. We estimated that, as a result of our interventions, the amount of illegally exported electrical and household waste from England fell by 17% between 2014 and 2016, from 206,000 to 171,000 tonnes. This reduction in illegal exports saved the UK economy £2.75 million over a 2 year period.

In 2014 we set up a waste crime intervention and evaluation programme, funded by £5.8 million from the Landfill Communities Fund. The programme focussed on reducing the risk from illegal waste sites, reducing the mis-description of waste and reducing the illegal export of waste. Our activities produced

⁶ Environmental Services Association Educational Trust, 2017. Rethinking waste crime (www.esauk.org/esa_reports/20170502_Rethinking_Waste_Crime.pdf).

potential combined benefits of at least £29 million to the UK. This means that each £1 invested by the project generated £5 worth of benefits. Within this total, businesses could make additional profits of £726,000, generated from additional revenue of £14.5 million.⁷

Despite all this effort and funding, waste crime remains a very big problem. We are currently finding as many new illegal waste sites each year as we are managing to shut down. We have been working with the government and our partners seeking ways to drive down waste crime and are pleased that the government has invested an additional £30 million over 4 years in our work.

With the waste industry, we continue to work with waste producers to ensure they meet their waste Duty of Care obligations by only passing waste onto an appropriate person. We helped fund the industry-led campaign 'Right Waste, Right Place,' which aims to raise the profile and awareness of the Duty of Care requirements with waste producers across both public and private sectors, with a particular focus on small to medium size businesses.⁸

In the financial year 2016 to 2017 we brought 138 prosecutions against businesses and individuals for waste crime offences, yielding more than £2 million in fines. These are paid into the government's consolidated fund.

Protecting and improving the environment

We actively improve the environment and health of our communities, but we do not do this alone. The changes observed over time have largely been a result of the UK implementing European Union (EU) directives that have required industry and businesses to change their working practices. Our role has been to implement these requirements and ensure that industry meets the directives.

We do this through compliance and enforcement, as covered in the section above, but also through reviewing and changing existing permits and requiring businesses to reduce their impact on the environment.⁹

In 2016, emissions to air from the sites we regulate continued to reduce, to the benefit of both people and the environment. Emissions of greenhouse gases also continued to reduce.

The quality of our bathing waters improved and the amount of phosphorus discharged to surface waters reduced. Over-enrichment of water with nutrients such as phosphorus (eutrophication) accelerates the growth of algae and other plants. This depletes the oxygen in the water, affects water quality and upsets the balance of organisms living there.

Waste recovery from the sites we permit was the highest recorded at 67%, although more waste was produced overall.

⁷ Environment Agency, Waste crime intervention and evaluation programme 2014-2016.

⁸ Right waste, right place campaign (www.rightwasterightplace.com/#intro).

⁹ Environment Agency, Regulated industry sector strategies (www.gov.uk/government/publications/environmental-performance-sector-strategies).

Cleaner air

Air pollution is caused by natural sources and by people's activities. These activities include the combustion of fuels for heat and power, industrial processes and manufacturing, and transport.

Air quality is the fourth biggest public health risk, behind cancer, obesity and cardiovascular disease, and is the biggest environmental threat to health. Nitrogen oxides (NO_x), sulphur oxides (SO_x), and fine particles irritate the airways of the lungs. They increase the symptoms of those suffering from lung diseases and can exacerbate heart conditions. The health problems resulting from exposure to air pollution have a high cost to society and business, including our health services. In the UK, these costs are more than £20 billion every year.¹⁰

Air pollution also has negative impacts on our environment, both in terms of the direct effects of pollutants on animals and vegetation, and indirectly through effects on the acid and nutrient status of soils and waters. Poor air quality reduces biodiversity, changing habitats that animals rely on for shelter and food.

Legislation is aimed at controlling emissions at source through permits and setting air quality standards and objectives. EU legislation has been transposed into UK law, with targets set for 2020 and beyond to protect human health and the environment.

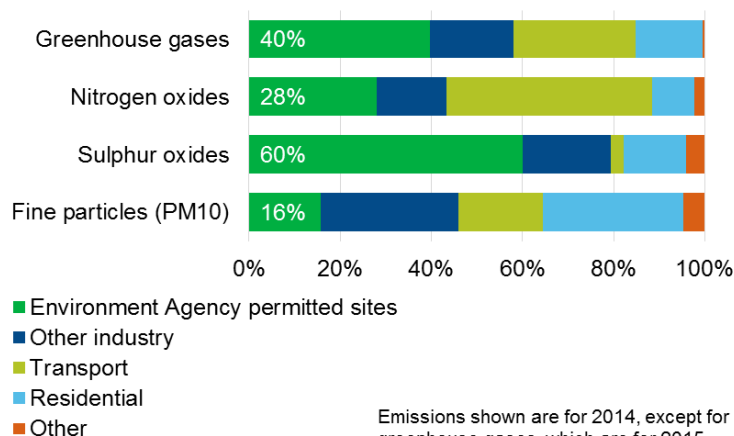
Air quality is improving in the UK, but there are still issues to tackle, particularly in urban areas. The Environment Agency now manages the UK Air Quality Monitoring Network on behalf of government. Data from the network helps to inform the action that local authorities need to take to tackle local air quality.

We regulate emissions from sites across a range of process industry and energy sectors, and we're committed to maximising the impact we make. The amount of pollutants released to air from the sites we regulate continued to reduce in 2016. Since 2000, emissions of:

- NO_x have decreased by 71%
- SO_x have decreased by 93%
- PM10s have decreased by 50%

The reductions in emissions of these substances has helped improve people's health by reducing the risk of respiratory illnesses as well as protecting sensitive species and sites such as upland moorlands.

Emissions to air from sites we permit as a percentage of all England emissions



Emissions shown are for 2014, except for greenhouse gases, which are for 2015.



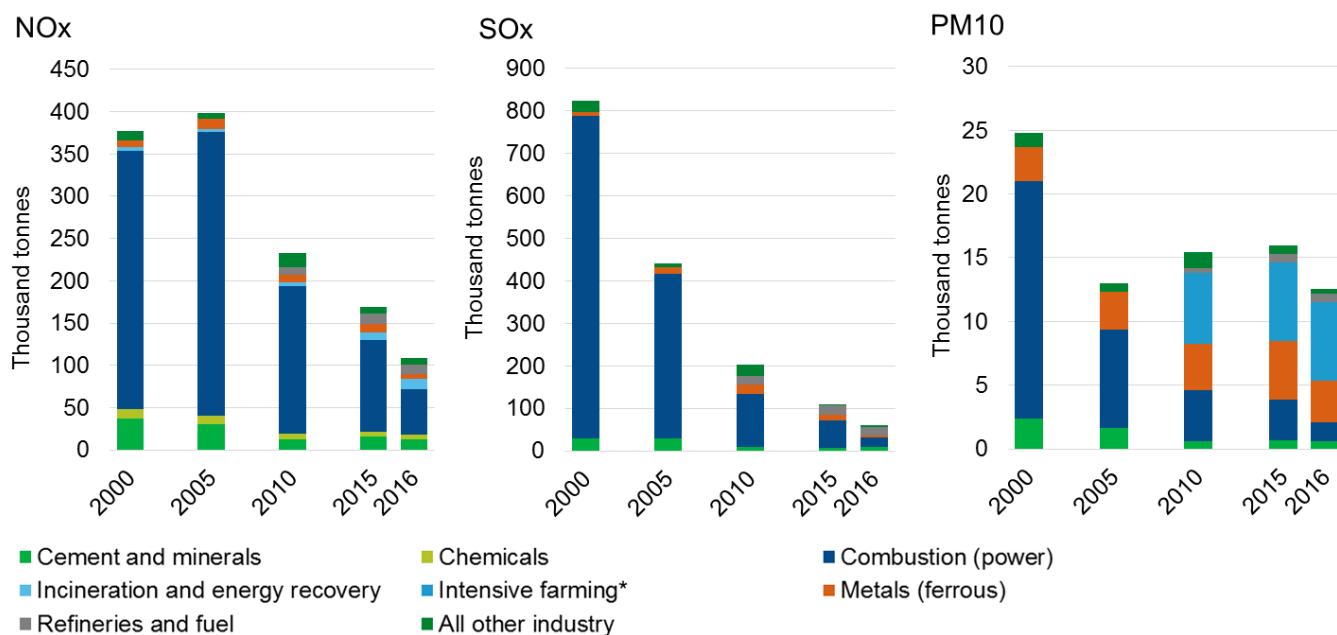
¹⁰ Royal College of Physicians. Every breath we take: the lifelong impact of air pollution. Report of a working party. London: RCP, 2016 (www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution).

The businesses we regulate contribute 28% of all NO_x emissions in England, 60% of SO_x and 16% of PM₁₀.

Significant contributions to making the reductions include:

- coal and oil fired combustion plants closing as they are unable to meet the tighter emissions standards set in permits implementing the Large Combustion Plant Regulations 2002
- an increasing amount of energy being generated from renewable sources, reducing the amount needed from fossil fuels
- application of best available techniques to improve process efficiency and remove pollutants from flue gases

Emissions to air from sites with permits, 2000 to 2016



'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of each pollutant in 2016. *Emissions from the intensive farming sector were reported from 2007.

Climate change

The businesses we regulate contribute 40% of all greenhouse gas emissions in England. Since 2000, emissions of greenhouse gases from these businesses have decreased by 39%, and by 19% since 2015. The combustion (power) sector contributes 58% of the emissions from the sites we regulate.

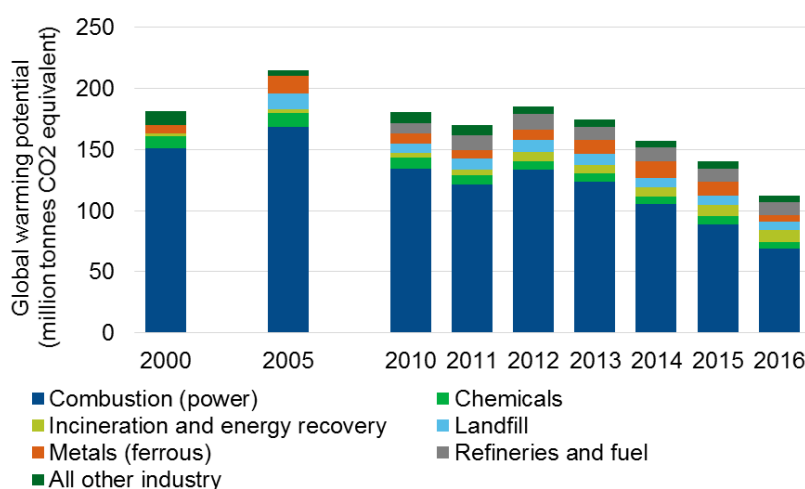
In 2016, the landfill sites we permit released 185,000 tonnes of methane to the air (90% of all methane emissions reported from the sites we permit).

This is about 14% of total methane emissions in England.¹¹ The landfill sector's methane emissions decreased by 5% between 2015 and 2016, and by 63% since 2002.

The decrease in landfill gas production is largely due to the diversion of biodegradable waste away from landfill and a decrease in the number of operational sites.

The global warming potential of methane is estimated to be around 25 times greater than carbon dioxide, based on a 100-year time horizon. Even small decreases in methane can have significant benefits in terms of its contribution to climate change.

Greenhouse gas emissions (as global warming potential) to air from sites with permits, 2000 to 2016

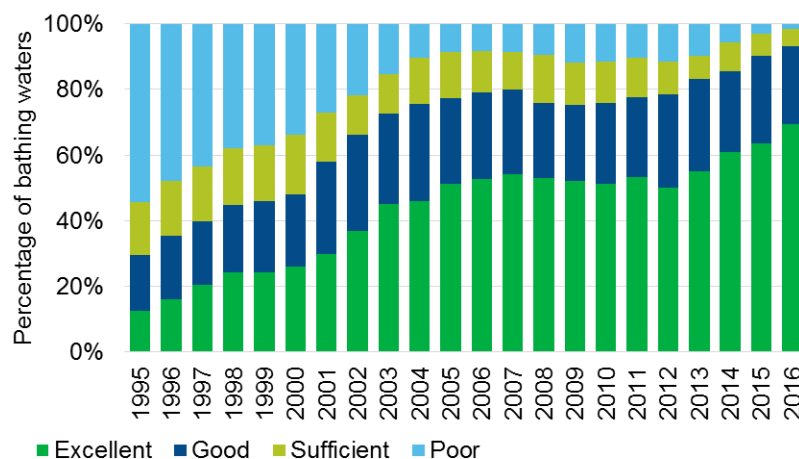


'All other industry' includes emissions from sectors that contribute less than 5% towards the total release of greenhouse gases in 2016.

Cleaner water

In 2016, a record 98.5% of bathing waters passed quality standards, up from 97.1% in 2015.¹² The seaside economy is worth more than £3.6 billion annually and 146 million people flock to Britain's beaches every year.¹³ Recent improvements in bathing water quality are largely due to improvements in the infrastructure at, or near, a number of bathing waters, and more favourable weather conditions.

Bathing water quality, 1995 to 2016



¹¹ Defra, Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2015 (uk-air.defra.gov.uk/library/reports/report_id=932).

¹² Statistics on English coastal and inland bathing waters: a summary of compliance with the 2006 Bathing Water Directive (www.gov.uk/government/uploads/system/uploads/attachment_data/file/565710/STATS_bathing-water-release-2016v1.pdf).

¹³ Press release. England's bathing waters best on record (www.gov.uk/government/news/englands-bathing-waters-best-on-record).

Between 1990 and 2020 the water industry will have invested about £25 billion in environmental improvement work. We work with the water companies to target these investments to maximise water quality improvements. We also work with water companies and other organisations to prevent and mitigate pollution incidents when they happen. These include rivers trusts, wildlife trusts and community wardens and local campaigns and projects such as the Oil Care Campaign,¹⁴ Yellow Fish¹⁵ and ConnectRight.¹⁶

Freshwaters, as a natural capital asset, are worth at least £40 billion to the economy.¹⁷ Phosphorus is one of our most significant water management issues, with 55% of assessed river water bodies and 74% of lakes failing the phosphorus standard for the Water Framework Directive assessment of good ecological status. Water company discharges of sewage effluent are the largest source of phosphorus entering rivers nationally (accounting for 60 to 70% of the total load). Environmental improvements have reduced phosphorus, ammonia and biological oxygen demand loads from sewage treatment works discharges. For phosphorus, the reduction from 1995 to 2015 was over 60%.

Agriculture, through run-off contaminated with fertilisers and manures, is the second largest source of phosphorus entering rivers, contributing about 25% of the total load. Reductions in fertiliser use and animal numbers, along with improved agricultural practices over the last 30 years have helped to reduce phosphorus loadings to water from agricultural sources. However, tackling pollution caused by agriculture remains a challenge.

Since 2008, we have returned over 27 million cubic metres of water per year to the environment by stopping businesses taking more than the local environment can sustain. We will continue to review current and new abstraction licences.



Water company compliance with environmental permits at sewage treatment and water treatment works remained very good in 2016, at 98.6% compared to 98.7% in 2015. All water companies achieved the target to complete work to build and upgrade infrastructure in 2016. This will improve water quality, water resources and river biodiversity. Of the 9 main water and sewerage companies operating in England, 8 gained full marks for protecting water supply security.¹⁸ The cumulative effect of multiple small issues or incidents can have a significant overall impact on the environment or human health. Active monitoring programmes and self-reporting helps spot these issues before too much damage is done.

¹⁴ Oil Care Campaign (www.oilcare.org.uk).

¹⁵ Avoiding pollution: Yellow Fish scheme (www.gov.uk/government/publications/avoiding-pollution-yellow-fish-scheme).

¹⁶ ConnectRight campaign (www.connectright.org.uk).

¹⁷ ONS, Natural capital accounting 2020 roadmap: Interim review and forward look (www.gov.uk/government/statistics/natural-capital-accounting-2020-roadmap-interim-review-and-forward-look).

¹⁸ Environment Agency, Water and sewerage companies in England: environmental performance report 2016 (www.gov.uk/government/publications/water-and-sewerage-companies-in-england-environmental-performance-report).

Reduced waste

The amount of waste going to landfill in England has decreased by 44% since the year 2000 to 2001.¹⁹

In 2016, the sites we permit produced 15.4 million tonnes of waste, an increase on the 14 million tonnes in 2015.

However, a higher percentage of waste was recovered in 2016, 67% compared with 65% in 2015. This is the highest recovery rate on record.

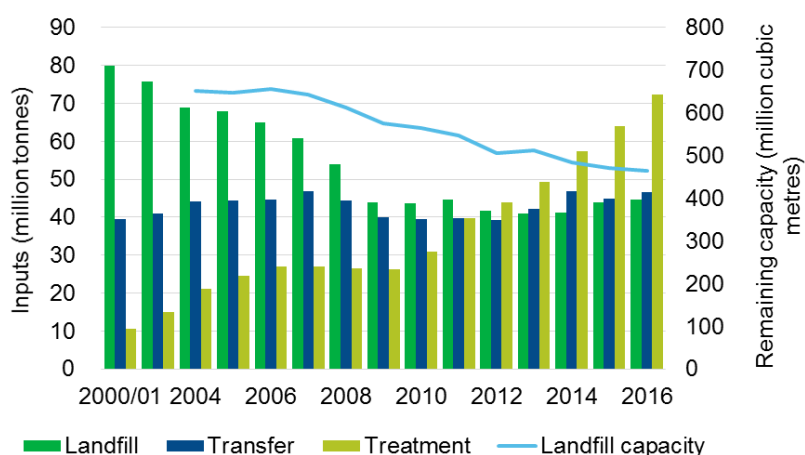
In 2016, the sectors that produced the most waste were:

- biowaste treatment (3.3 million tonnes, 21% of waste produced by all sectors with permits)
- incineration with energy recovery (2.9 million tonnes, 19%)
- food and drink (2.7 million tonnes, 17%)

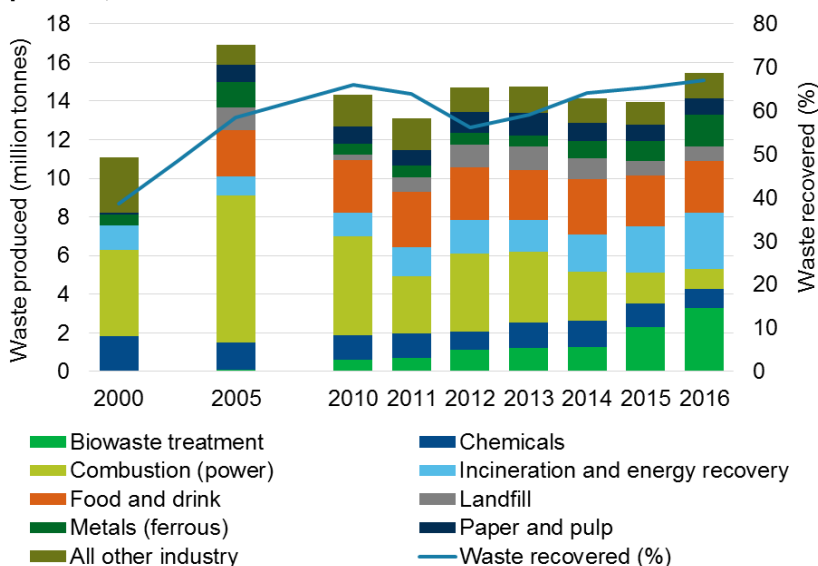
The amount of waste produced by the biowaste treatment sector increased by 42% between 2015 and 2016. The biowaste sector is an emerging sector, rapidly growing, and diverse in scale and nature. It includes for example composting and anaerobic digestion processes. The increase in waste produced is a reflection of waste increasingly being sent to treatment facilities rather than landfill. The sector recovered 75% of its waste in 2016. The biowaste treatment sector produces waste materials that have the potential to be valuable resources. These can be burned to produce energy, or added to soil for agricultural improvement and reduce the need for chemical fertilisers.

Waste produced by incinerators increased by 22% between 2015 and 2016. This waste consists of incinerator bottom ash (ash left over from burning the waste) and air pollution control residue (from treating the exhaust gases). The amount of waste produced is proportional to the amount of waste burned. Between 2010 and 2015, the tonnage of waste incinerated increased by 75% (from 5.9 million to 10.4 million). The sector recovered 74% of its waste in 2016. Most of this is used as secondary aggregate in construction and road building, replacing primary non-waste minerals.

Waste management, 2000/01 to 2016



Waste produced and recovered by sites with permits, 2000 to 2016



¹⁹ Environment Agency, Waste management for England 2016 (www.gov.uk/government/publications/waste-management-for-england-2016).

There was a small increase (2%) in waste produced by the food and drink sector between 2015 and 2016. The sector recovered 92% of its waste in 2016.

Waste re-use and recovery helps the environment by protecting natural resources and reduces the need to dispose of material. In recent years, more waste has been re-used and recycled, and less landfilled. Twenty years ago nearly all waste went to landfill. Now most is beneficially re-used or used for energy generation. This has led to a large increase in the number of sites storing and treating wastes, often in close proximity to communities. This has increased the risks of fires and odours.

Contributing to economic growth

We work to play our part in boosting growth in the economy while continuing to protect people and improve the environment. We look at ways we can help businesses save time and money and stimulate investment in new technology or infrastructure.

Our permitting and licensing activities enable businesses to carry out their operations, while robust regulation provides the level playing field legitimate businesses need to prevent being undercut by irresponsible or illegal operators. In return, we expect businesses to take their share of responsibility and risk. In 2016 we supported businesses by:

- processing over 517,000 environmental permits, exemptions and registrations
- issuing 2,922 new permits and 4,823 permit variations for waste, water quality, water resources and industrial activities
- dealing with 1,351 permit surrenders and 1,081 permit transfers for these activities

We've also reduced the time we take to grant permits once we receive the application. This helps reduce costs to businesses and increases turnover and therefore profits. We've been set a target by government to issue our permits within a maximum period of 13 weeks. Of the permits we processed that were not subject to exception criteria,²⁰ 51 took longer than the target 13 weeks.

In 2016, we also completed permit reviews and set revised standards in the cement, lime and minerals, paper and pulp, and iron and steel sectors, resulting in reduced emissions to the environment. These reviews help deliver system efficiency for operators. For example, following the paper and pulp sector review, one site has estimated future savings of up to £1.5 million by investing to meet the new standards.

We work with government, businesses and other regulators to support innovation and new technology that helps reduce the regulatory burden. We're developing and using online digital platforms which minimise administrative burdens and are more accessible for businesses. There are now online platforms for registering exemptions and implementing:

- the EU Emissions Trading Scheme
- the Energy Saving Opportunities Scheme
- Climate Change Agreements
- the CRC Energy Efficiency Scheme

²⁰ Exception criteria can include: where a different deadline is agreed by the applicant, major infrastructure projects, factors beyond the control of the Environment Agency, where the consultation period takes up all or most of the determination period, where extended consultation is required for sites of high public interest, new applications or substantial variations for specific sectors.

Effective regulation gives businesses the confidence to invest in new facilities and technologies. In the regulation of new sectors, such as renewables, onshore oil and gas, and nuclear, we work with industry to be clear on what is required of them and ensure future resilience.

We've introduced standard rules permits and guidance for the onshore oil and gas sector, which will:

- maintain environmental protection
- save businesses £0.8 million per year through more streamlined guidance
- help build stronger relationships between local communities and regulators through early engagement in new shale gas areas

In 2009, we set up a national programme in response to proposals for significant investment in new nuclear power stations in England and Wales. Our New Nuclear Build Programme Team manages our work on new nuclear build including:

- Generic Design Assessment
- permitting
- regulation
- providing advice to industry, government, other decision makers and stakeholders

Our Generic Design Assessment work enables us to assess the acceptability of new reactor designs up front. This will help to avoid potential programme time and cost risks arising from modifications during construction, and so improve potential investors' confidence. We work with other regulators, including the Office for Nuclear Regulation, Natural Resources Wales and the Defra bodies, Natural England and the Marine Management Organisation to deliver coordinated, effective and efficient regulation and advice. This ensures that any new nuclear power stations in England meet the high standards of safety, security, environment protection and waste management that we expect.

In 2016 construction began on the first of these new nuclear power stations at Hinkley Point C in Somerset where EDF is constructing a £20 billion twin reactor plant capable of providing 6% of the UK's electricity.

One of the main ways we support businesses is by working in partnership where we can. We:

- speak to trade associations when new environmental standards are being set to ensure they are appropriate and achievable
- allow time for businesses to plan future investment or make changes to meet new regulations or standards
- listen - there may be good and justified reasons why they cannot meet new requirements
- agree derogations where, if certain criteria are met, a lesser standard can be applied

We also monitor the impact of the changes in the way we implement regulation using the government's business impact target (BIT) assessments, which are validated by the Regulatory Policy Committee. In 2016, we implemented 10 qualifying measures. Overall, these measures saved affected businesses £12 million annually.²¹ Within this total, revising our fire prevention plan guidance saved businesses £11 million.

²¹ Estimated annual net discounted cost to business; this is equivalent to the Business Impact Target Score divided by 5. Business impact target assessments 2017 (www.gov.uk/government/publications/environment-agency-business-impact-target/environment-agency-business-impact-target-assessments).

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