

Debate Pack
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Permit variation processes for waste incineration facilities

1	Background	2
1.1	Regulation of incineration	2
	EU permitting regime	2
	Planning permission and moratoriums	4
1.2	Incineration and the waste hierarchy	5
1.3	Incineration policy	6
1.4	Opposition to incineration	8
1.5	Carbon emissions from incineration	9
1.6	Public Health England: air quality and health	10
1.7	Incineration and the circular economy	12
1.8	Statistics on incineration	14
2	Parliamentary material	17
2.1	PQs	17
2.2	Debate	20
3	News items	21

Background

A debate on permit variation processes for waste incineration facilities will be held in Westminster Hall on Thursday 1 December 2022 at 1.30pm. The debate will be opened by Elliot Colburn MP (Conservative).

1.1 Regulation of incineration

EU permitting regime

Waste policy and regulation derives, in general, from a mesh of EU legislation.

For waste incineration the key legislation is the [EU Industrial Emissions Directive 2010](#) (2010/75/EU) (the “IED”), which repealed and replaced (amongst other legislation) the Waste Incineration Directive 2000, from January 2014. The IED aims to prevent or reduce emissions to air, land and water from industrial facilities.

Chapter IV (Articles 42-55) of the IED applies to waste incineration plants and waste co-incineration¹ plants that incinerate or co-incinerate solid or liquid waste. Article 42 sets out the scope of which type of waste incineration plants the provisions apply to. Facilities treating certain kinds of waste are excluded, including biomass. The Directive requires facilities within its scope to operate under a permit based on the use of Best Available Techniques (BAT). The BAT approach is defined by the UK Government as follows:

‘Best Available Techniques’ means the economically and technically viable available techniques which are the best for preventing or minimising emissions and impacts on the environment as a whole. ‘Techniques’ include both the technology used and the way the installation is designed, built, maintained, operated and decommissioned. ‘Best Available Techniques’ is used to determine the types of abatement technologies and methods operators should put in place, as well as setting associated emission limits associated with the use of ‘Best Available Techniques’ within environmental permits.²

The EU’s BAT conclusions for waste incineration were last updated in November 2019.³ They aim to reduce emissions to air, water and soil, as well as covering noise and odour. Other environmental issues such as energy

¹ Co-incineration means a plant whose main purpose is the generation of energy or production of material products

² UK Government, ‘[Best Available Techniques’ – A future regime within the UK](#), January 2021, p5

³ European Commission, [New EU environmental standards for waste incineration](#), 4 December 2019

efficiency, resource efficiency (water and reagents consumption, recovery of useful materials), are also covered.⁴

Where BAT conclusions are available for any new facility, those facilities must achieve the required standard before the start of operations. For existing facilities, all permit conditions should be reconsidered (and, where necessary, updated) in line with the relevant BAT conclusion within four years of its publication.⁵

On leaving the EU the body of retained EU law includes UK legislation that implemented the IED and other Directives relevant to regulation of industrial permitting. In particular, the [Environmental Permitting \(England and Wales Regulations\) 2016](#), as amended, became retained EU law.

The UK Government, along with the Scottish and Welsh Governments, and the Northern Ireland Department of Agriculture, Environment and Rural Affairs have consulted on and [set out its proposed approach for deciding the Best Available Techniques for tackling industrial emissions](#) following the UK's exit from the EU.⁶ A provisional [common framework document](#) published in February 2022 sets out how the UK government and devolved governments propose to work together on developing and setting Best Available Techniques for industrial pollution control standards.⁷

UK permitting

The principal regulations implementing the EU permitting requirements in England and Wales are the [Environmental Permitting \(England and Wales Regulations\) 2016](#), as amended. Regulation of incinerators in England is split between the Environment Agency (EA) and local authorities. The EA regulates incinerators with a capacity of greater than 3 tonnes per hour for non-hazardous waste and 10 tonnes per day for hazardous waste. Incinerators below this size are regulated by local authorities.⁸ The Government's [Environmental Permitting guidance for waste incineration](#) provides more detailed information about which regulator is responsible for different types of facility and waste material.

The environmental permit will set conditions which limit the discharge to air, water and soil of specified substances. Further information is set out in the

⁴ [Commission Implementing Decision \(EU\) 2019/2010 of 12 November 2019 establishing the best available techniques \(BAT\) conclusions](#), under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987)

⁵ Scottish Environment Protection Agency, [Best Available Techniques \(BAT\) reference documents \(BREFs\)](#) [downloaded on 29 November 2022]

⁶ UK Government, [‘Best Available Techniques’: a future regime within the UK](#), consultation published January 2021

⁷ HM Government, [Integrated pollution prevention and control: developing and setting of Best Available Techniques \(BAT\) provisional common framework](#), 3 February 2022

⁸ [Incinerators: Licensing: Written question – 308](#), answered 7 January 2020

Environment Agency's [How to comply with your environmental permit Additional guidance for: The Incineration of Waste](#) (EPR 5.01), February 2009.

The Regulations require consultation of the public on some permit applications but do not prescribe the methods of consultation. Environment Agency guidance states that, "This allows proportionate and flexible approaches to public participation to be developed by the regulators."⁹ For further information about the approach it takes see [Environment Agency, Environmental permits: when and how we consult](#), updated April 2019.

Different versions of environmental permitting regimes, which stem from the same EU framework, also exist in [Scotland](#), [Wales](#) and [Northern Ireland](#).

Variation of a permit

Once an operator has an environmental permit, changes in the operation of the facility may require the operator to apply to vary the permit. The operator must apply to the regulator to vary the permit conditions when proposing a change that would mean that a permit condition could no longer be complied with. Other changes may also require a variation application – for example, to change the name of the operator on the permit.¹⁰

Environment Agency guidance on permitting highlights that a variation application may include an increase to the extent of the site over which the regulated facility operates, and that, "Where this occurs, issues such as the protection of the land must be addressed."¹¹

The Environment Agency guidance also sets out when public participation is required in relation to an application to vary a permit:

For applications to vary an environmental permit, public participation is required in two situations (see paragraph 5(2) of Part 1 of Schedule 5). First where there is a "substantial change" to the operation of an installation (see guidance for Part A installations) and mining waste facilities. Second, the regulator may decide that consultation is appropriate in cases (whether or not relating to an installation) that do not involve substantial changes. In these cases, the regulator will notify the operator of its decision and the consultation will proceed as if there were a substantial change (see Chapter 10 on Consultation and public participation)¹²

Planning permission and moratoriums

In addition to obtaining the correct environmental permits, new incineration plants will also need obtain planning permission. Further information about

⁹ Environment Agency, [Environmental permitting guidance: Core guidance](#), April 2020, p62

¹⁰ Environment Agency, [Environmental permitting guidance: Core guidance](#), April 2020, p40

¹¹ Environment Agency, [Environmental permitting guidance: Core guidance](#), April 2020, p40

¹² Environment Agency, [Environmental permitting guidance: Core guidance](#), April 2020, p40

the planning considerations for England is set out in the [UK Government's Planning Policy for Waste document, 2014](#) and in [Northern Ireland from the Department for Infrastructure's Planning policy webpage](#).

In Scotland, an [Independent Review of the Role of Incineration in the Waste Hierarchy in Scotland](#), was led by Dr Colin Church (Chief Executive of the Institute of Materials, Minerals and Mining) and a final report published in May 2022. In June 2022 the Scottish Government accepted all twelve recommendations, including Dr Church's recommendation that no further planning permission for incineration facilities should be granted.¹³

In March 2021 the Welsh Government announced that it was putting in place an immediate moratorium on new large-scale energy from waste plants. The moratorium covers new energy from waste plants with a capacity of 10MW or more, and came into effect immediately.¹⁴ A press release from the Welsh Government also set out the position in relation to smaller scale plants:

The moratorium will also mean small-scale plants, of less than 10MW, will only be allowed if applicants can show there is a need for such facilities in the regions in which they are planned. Small plants would also need to supply heat, and – where possible – be carbon-capture and storage enabled, or ready.¹⁵

1.2 Incineration and the waste hierarchy

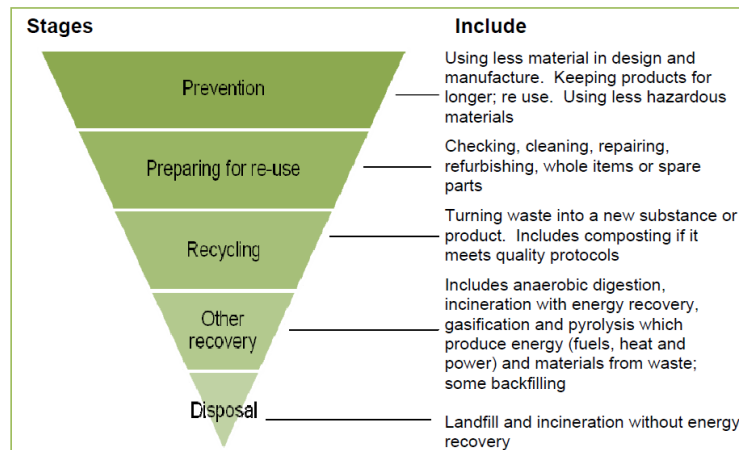
The [Waste \(England and Wales\) Regulations 2011](#), (SI 2011/988) as amended provides for a "waste hierarchy". This hierarchy sets out the order of priority to apply to products and waste. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill and incineration where there is no energy recovery). A chart from the Department for Environment, Food and Rural Affairs (Defra) shows the waste hierarchy as follows:¹⁶

¹³ Scottish Government, [Putting limits on incineration capacity](#), 16 June 2022

¹⁴ Welsh Government, [Wales takes action on Circular Economy with funding, upcoming reforms on plastic and a moratorium on large-scale waste energy](#), 24 March 2021

¹⁵ Welsh Government, [Wales takes action on Circular Economy with funding, upcoming reforms on plastic and a moratorium on large-scale waste energy](#), 24 March 2021

¹⁶ Defra, [Guidance on applying the waste hierarchy](#), June 2011, p3



Energy from Waste (EfW) or Waste to Energy (EtW) are terms used to describe incineration processes that involve burning waste at high temperatures (>850°C) and where energy from this process is recovered in the form of heat or electricity.

These processes encompass very different waste treatment operations, ranging from ‘disposal’ and ‘recovery’ to ‘recycling’ within the hierarchy. For example, processes such as anaerobic digestion which result in the production of a biogas and of a digestate are generally regarded as a recycling operation.¹⁷ On the other hand, waste incineration with limited energy recovery is regarded as disposal.¹⁸

1.3 Incineration policy

In the December 2018 [Resources and Waste Strategy for England](#), published under Prime Minister May, the Government said that, “Incineration currently plays a significant role in waste management in the UK, and the Government expects this to continue.”¹⁹ More recently, in response to a PQ in October 2022 the Government stated that it, “has no plans to introduce a moratorium on new incineration capacity in England.”²⁰

¹⁷ Article 2 (6) of Commission Decision 2011/753/EU establishing rules and calculation methods for verifying compliance with the targets set in Article 11(2) of Directive 2008/98/EC of the European Parliament and of the Council. OJ L 310 of 25.11.2011.

¹⁸ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, [The role of waste-to-energy in the circular economy](#), 26 January 2017, COM(2017) 34 final, p4

¹⁹ HM Government, [Our waste, our resources: a strategy for England](#), 18 December 2018, p79

²⁰ Incinerators, [UIN 60130](#), tabled on 10 October 2022

Moratoriums on new incineration plants in Scotland,²¹ and for larger plants in Wales,²² are set out in the section above on planning permission.

Possible taxation

The 2018 Resources and Waste Strategy indicated that the UK Government may consider a tax on incineration, should other policies to incentivise recycling not deliver the required results:

Should wider policies not deliver the Government's waste ambitions in the long-term, we will consider the introduction of a tax on the incineration of waste. (...)

However, Budget 2018 set out the Government's long term ambition to maximise the amount of waste sent to recycling instead of incineration and landfill. Any consideration would take into account how such a tax would work alongside Landfill Tax and the possible impacts on local authorities.²³

The UK Government restated this position in response to a PQ in October 2021 and noted that, "All tax policy is kept under review."²⁴

Recovery of heat from energy from waste

The 2018 Resources and Waste Strategy also set out how the Government wanted to increase Energy from Waste efficiency so that the heat from the process is recovered and can be used as a source for district heat networks:

3.2.1 Driving greater efficiency of Energy from Waste (EfW) plants by encouraging use of the heat the plants produce

England has around 40 EfW plants. Eight operate in Combined Heat and Power (CHP) mode, delivering greater efficiency than solely generating electricity. We want to help the companies that run EfW plants to use the heat produced to improve their efficiency, and to help industry make the right decisions over infrastructure investment.²⁵

Heat networks distribute heat from a centralised heat source (such as a single, central boiler) directly to homes and other buildings. Heat networks are generally efficient ways of delivering heat, as they benefit from large scale heat generation and can use waste heat resources.

The Government confirmed this position in its [Waste Management Plan for England 2021](#), saying that it wanted to work closely with industry to secure a "substantial increase in the number of energy from waste plants that are

²¹ Scottish Government, [Putting limits on incineration capacity](#), 16 June 2022

²² Welsh Government, [Wales takes action on Circular Economy with funding, upcoming reforms on plastic and a moratorium on large-scale waste energy](#), 24 March 2021

²³ HM Government, [Our waste, our resources: a strategy for England](#), 18 December 2018, p79

²⁴ Waste Management, [UIN 53163](#), tabled on 22 September 2021

²⁵ HM Government, [Our waste, our resources: a strategy for England](#), 18 December 2018, p77

formally recognised as achieving recovery (R1) status, and to ensure all future energy from waste plants achieve recovery status.”²⁶

The Waste Management Plan also highlighted how Government wanted to refocus energy from waste incinerators to produce heat for heat networks. The aim of this is make use of otherwise wasted heat to displace gas boiler heating. The Government set out how this shift would be funded:

Funding for this in England (and Wales) is coming through government’s £320 million pound Heat Networks Investment Project (HNIP). To date, we have announced over £76 million in funding to 13 projects, including 6 from energy from waste plants, which will in total take over 150 GWhs annually of wasteheat from incinerators. We are planning to continue our support of this area by supporting the BEIS £270 million Green Heat Network Fund (GHNF) scheme, which is expected to open in 2022 to further drive carbon savings and ensure that energy from waste incinerators are making the most of their heat production potential and reducing their CO2 emissions.²⁷

1.4

Opposition to incineration

Incineration can be a controversial form of waste management. Proposals for new incineration facilities often face strong public opposition.²⁸

Many environmental groups oppose incineration. For example, Friends of the Earth summaries its reasons for opposing incineration on its website as follows:

Friends of the Earth opposes incineration because it:

- Causes climate change – and is an inefficient way of generating energy.
- Destroys valuable materials that could be recycled into new products. Recycling avoids having to make products from virgin materials.
- Doesn't provide an incentive for reducing waste. Contracts for incinerators are long, requiring waste for 20 years.²⁹

There are also specific campaign groups that oppose incineration. [UKWIN](#) (UK Without Incineration Network), summarises its opposition on its website under the following headings:

- Incineration harms recycling

²⁶ HM Government, Waste Management Plan for England 2021, January 2021, p12

²⁷ HM Government, Waste Management Plan for England 2021, January 2021, p12-13

²⁸ See for example, Monmouthshire Beacon, “[Opposition to Usk Valley incinerator heats up](#)” 1 November 2019

²⁹ Friends of the Earth website, [All you need to know about waste and recycling](#) [downloaded on 29 November 2022]

- Incineration exacerbates climate change
- Incineration is a barrier to the circular economy
- The UK already faces incineration overcapacity
- Incinerators harms air quality
- Incinerators are bad neighbours.³⁰

1.5

Carbon emissions from incineration

Burning waste releases carbon dioxide. The Intergovernmental Panel on Climate Change (IPCC)³¹ estimates that every tonne of waste incinerated releases 0.7-1.2 tCO₂e (tonnes (t) of carbon dioxide (CO₂) equivalent (e)).³² A PQ response from 2017 summarised how atmospheric emissions are monitored within the environmental permitting regime:

As part of the environmental permitting process for new incinerator plants, the regulator is required to make an assessment of the environmental impact of each site and to set limit values in the environmental permit for emissions to air of a wide range of key pollutants. These atmospheric emissions are subject to a strict monitoring regime. The emissions of individual incinerators can be found using the following link: <http://naei.beis.gov.uk/data/map-large-source>.

The Global Warming Potential (GWP) of a waste incineration plant is assessed as part of the permitting process undertaken by the regulator, taking into account emissions of carbon dioxide (CO₂) as well as nitrous oxide. The regulator assesses the equivalent amount of CO₂ that the plant will emit against the European standards to ensure that the plant is using best available techniques to minimise GWP.

If issued, permits will contain a requirement for the operator to review opportunities for improving energy efficiency at least every four years and thereby reduce CO₂ emissions where possible.³³

The Climate Change Committee's³⁴ [2022 Progress Report to Parliament](#) highlighted an increase in UK waste incineration emissions since 2019:

³⁰ UKWIN website, [why oppose incineration](#) [downloaded on 29 November 2022]

³¹ The IPCC is the United Nations body for assessing the science related to climate change.

³² IPCC, Chapter 5, [2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 5 Waste](#)

³³ [Incinerators: Written question – 112708](#), answered 20 November 2017

³⁴ The Climate Change Committee is the statutory body which advises the Government and devolved Governments on emissions targets

Waste emissions in 2020 were around 25 MtCO₂e, almost 6% of UK emissions (Figure 11.1). Emissions from waste reduced by about 5% in 2020 from 2019 levels.

- This was driven principally by a 9% reduction in methane emissions from landfill, which accounts for over half of the emissions from the sector.
- Energy from Waste plants and incineration is responsible for about a quarter of the sectors emissions and increased by 3% from 2019.
- Emissions from wastewater treatment, for which estimated emissions were revised down in 2021, are responsible for around 10% of emissions in the sector.³⁵

1.6

Public Health England: air quality and health

There has been concern about the impact of air pollution from waste incinerators on human health. This concern, in particular, relates to emissions of Particulate Matter (PM). The major components of PM are sulfate, nitrates, ammonia, sodium chloride, black carbon, mineral dust and water.³⁶ A [factsheet](#) from the World Health Organization (WHO) sets out that the smaller the size of the particle, the further it can enter the lungs and the blood stream. On health effects of PM, the WHO states, “There is a close, quantitative relationship between exposure to high concentrations of small particulates (PM₁₀ and PM_{2.5}) and increased mortality or morbidity, both daily and over time.”³⁷ The smaller the PM number, the smaller the size of the particle.

Public Health England, (now the UK Health Security Agency), funded a study to examine emissions of PM from incinerators and health. The study was conducted by the Small Area Health Statistics Unit (SAHSU) at Imperial College London. The outcome of the study was two papers published respectively in November 2018 and May 2019. A June 2019 PQ response summarised the findings as follows:

Public Health England (PHE) has funded a study to further extend the evidence base on municipal waste incinerators (MWIs). The study found that emissions of particulate matter (PM₁₀) from MWIs are low and make only a small contribution to ambient background levels. The report is available at the following link:

<http://pubs.acs.org/doi/abs/10.1021/acs.est.6b06478>

No evidence was found of a link between exposure to PM₁₀, which includes PM_{2.5}, PM₁ and PM_{0.1} emitted from MWIs and infant mortality, or the other

³⁵ Climate Change Committee’s [2022 Progress Report to Parliament](#), June 2022, p374

³⁶ World Health Organization, [Ambient \(outdoor\) air pollution](#), 2 May 2018

³⁷ World Health Organization, [Ambient \(outdoor\) air pollution](#), 2 May 2018

birth outcomes investigated. Further information is available at the following link:

<https://doi.org/10.1016/j.envint.2018.10.060>

The latest paper found no increased risk of congenital anomalies from exposure to PM10 emissions, however living closer to the incinerators was associated with a very small increase in risk of some birth defects. As acknowledged by the authors, this finding may be because the study could not fully adjust for factors such as other sources of pollution around MWIs or deprivation. The report is available at the following link:

<https://www.sciencedirect.com/science/article/pii/S0160412019308104>³⁸

In October 2019 Public Health England published a guidance statement following the modern municipal waste incinerators (MWIs) study. It stated PHE's view that, "modern, well run and regulated municipal waste incinerators are not a significant risk to public health":

The 2 papers - published respectively in November 2018 and May 2019 - found no evidence of an increased risk of infant mortality for children living close to MWIs.

A final paper, published in June 2019, found no evidence of increased risk of congenital anomalies from exposure to MWI chimney emissions, but a small potential increase in risk of congenital anomalies for children born within ten kilometres of MWIs.

The SAHSU authors acknowledge the increase in risk of congenital anomalies linked to distance from MWIs is the cruder of the two measures and may well be down to not fully adjusting the study for factors such as other sources of pollution around MWIs or deprivation.

A causal association between the increased risk of congenital anomalies for children born close to MWIs has not been established.

PHE's risk assessment remains that modern, well run and regulated municipal waste incinerators are not a significant risk to public health. While it is not possible to rule out adverse health effects from these incinerators completely, any potential effect for people living close by is likely to be very small.

This view is based on detailed assessments of the effects of air pollutants on health and on the fact that these incinerators make only a very small contribution to local concentrations of air pollutants.

PHE will continue to review its advice in light of new substantial research on the health effects of incinerators published in peer-reviewed journals.³⁹

³⁸ [Incinerators: Health Hazards: Written question – 268356](#), answered 25 June 2019

³⁹ Public Health England [PHE statement on modern municipal waste incinerators \(MWIs\) study](#), 15 October 2019

1.7

Incineration and the circular economy

A circular economy means re-using, repairing, refurbishing and recycling existing materials and products and regarding waste as something that can be turned into a resource. It maximises the value of resources to benefit both the economy and the environment. This contrasts with a linear “take-make-consume-dispose” model which assumes that resources are abundant, available and cheap to dispose.

The 2018 Resources and Waste Strategy set the then UK Government’s ambition to move towards a more circular economy: “We will leave behind our traditional linear economic model and create a more sustainable and efficient circular model from which the environment, the economy and society all benefit.”⁴⁰

[The Waste \(Circular Economy\) \(Amendment\) Regulations 2020](#) (SI 2020/904) contains provisions to restrict recyclable material being used in incineration. They amended the Environmental Permitting (England and Wales) Regulations 2016 to introduce a statutory permit condition on waste incinerators and landfills, placing restrictions on waste paper, metal, plastic and glass separately collected for preparing for re-use or recycling from being accepted for incineration or landfilling.⁴¹

Environmental organisations, such as the Green Alliance, have argued that public and private infrastructure investment in energy from waste facilities has perpetuated the linear model.⁴² They express concern that continued investment in incineration undermines recycling targets.⁴³ The Green Alliance has also argued that the Government should shift focus upstream, so that materials are captured and repurposed before they become waste.⁴⁴

Similarly, UKWIN, (UK Without Incineration Network), has expressed concern that unsorted materials, that could otherwise be recycled, are being sent for incineration:

Shlomo Downen, a director at UKWIN, says that most of what is described as ‘residual waste’ and then burned isn’t really residual. The contents of black bin bags aren’t sorted in the way that recycling collections are and so rubbish chucked in a regular bin will normally make its way swiftly to landfill or incineration, whatever it contains. Hard-to-recycle plastic rejected by

⁴⁰ HM Government, [Our waste, our resources: a strategy for England](#), 18 December 2018, p16

⁴¹ HM Government, [Explanatory Memorandum to the Waste \(Circular Economy\) \(Amendment\) Regulations 2020](#) (opens PDF)

⁴² Green Alliance, [Building a circular economy How a new approach to infrastructure can put an end to waste](#), November 2019

⁴³ Green Alliance, [Building a circular economy How a new approach to infrastructure can put an end to waste](#), November 2019

⁴⁴ Green Alliance, [Building a circular economy How a new approach to infrastructure can put an end to waste](#), November 2019

recycling plants (such as black plastic food containers and film) meets the same fate. 'It's not that what is leftover that could have been recycled or composted has been taken out, it's just what the local authority couldn't be bothered to compost or recycle,' says Downen.⁴⁵

The National Infrastructure Commission (NIC), (which provides impartial, expert advice to Government on major long term infrastructure challenges), published its [first National Infrastructure Assessment](#) in 2018. In this first assessment the NIC set out how the UK needed to incinerate less and recycle more.

A [second National Infrastructure Assessment](#) is due to be published in the second half of 2023. The NIC has identified "[9 key challenges](#)" for the second assessment, one of which is that "the waste sector must support the move to a circular economy". In November 2021 the NIC published a baseline report as a precursor to this work, a [Second National Infrastructure Assessment: Baseline Report](#). This report states that reducing emissions from waste treatment, such as landfill and incineration without energy recovery, is "critical".⁴⁶ The baseline report also sets out further how the NIC's work will consider changes needed to the waste sector, to move towards a more circular economy:

The Commission's work will consider additional changes needed in the waste sector to enable the move to a more circular economy and reduce the environmental impacts of waste. This will include looking at ways to increase recycling rates for municipal and construction waste, deliver the infrastructure needed to achieve net zero, and increase resilience to possible future restrictions on waste exports. The Commission will also consider interdependencies with the other infrastructure sectors in its remit.

This includes demand for energy and water, and the role of energy from waste. It also includes challenges and opportunities associated with construction waste from different infrastructure sectors as they take steps to improve resource efficiency and reduce waste.⁴⁷

The Government's [Environment Act 2021](#) contains measures on waste management which are aim to minimise waste, promote resource efficiency and move towards a circular economy.⁴⁸ In particular these measures to require consistency between local authorities in recycling collections and a revised system for making packing producers financially responsible for the for the full net costs of managing their products and packaging when they are ready to be disposed of. For further information see the UK Government

⁴⁵ Geographical website, "[Up in smoke: the pros and cons of burning rubbish](#)" 15 October 2018

⁴⁶ National Infrastructure Commission, [Second National Infrastructure Assessment: Baseline Report](#), November 2021, p41

⁴⁷ National Infrastructure Commission, [Second National Infrastructure Assessment: Baseline Report](#), November 2021, p54-55

⁴⁸ HM Government, [Queen's Speech December 2019: background briefing notes](#), 19 December 2019, p113

policy paper, [Waste and resource efficiency factsheet](#) (part 3), updated 1 April 2022.

In June 2022 the Climate Change Committee welcomed the Government's Environment Act measures, but warned against an over-reliance on incineration and said that greater investment in recycling was needed:

The planned reforms to waste management, including Extended Producer Responsibility and consistent collections, should help to enable higher recycling rates in England and across the UK but these alone won't be sufficient. Greater focus is needed to unlock longterm investment into recycling and drive behaviour change, to avoid waste in the first place, including through prevention, efficiency, re-use and extending product lifetimes. At the same time, action is required to avoid an over-reliance or over-capacity of incineration.⁴⁹

1.8 Statistics on incineration

The following table looks at recent data on incineration with and without energy. This covers all sources of waste. The proportion of all waste incinerated increased from 3.2% in 2010 to 7.3% in 2018. The majority of incineration in 2018 was with energy recovery.

Incineration in the UK: Use and capacity												
	Incineration only				With energy recovery				Total			
	Million tonnes	% of all waste	No. of facilities	Capacity (Mt/yr)	Million tonnes	% of all waste	No. of facilities	Capacity ('000 t/yr)	Million tonnes	% of all waste	No. of facilities	Capacity (Mt/yr)
2010	5.7	2.8%	..	..	0.8	0.4%	..	..	6.5	3.2%	..	..
2012	5.9	3.1%	87	8.4	1.6	0.8%	27	2.9	7.5	3.9%	114	11.3
2014	7.6	3.7%	83	9.9	1.9	0.9%	29	4.9	9.5	4.6%	112	14.7
2016	5.7	2.7%	78	8.5	7.3	3.4%	37	9.8	13.0	6.1%	115	18.3
2018	7.3	3.4%	91	12.3	8.5	3.9%	40	11.4	15.8	7.3%	131	23.7

Source: Defra, [UK statistics on waste data](#) (July 2022)

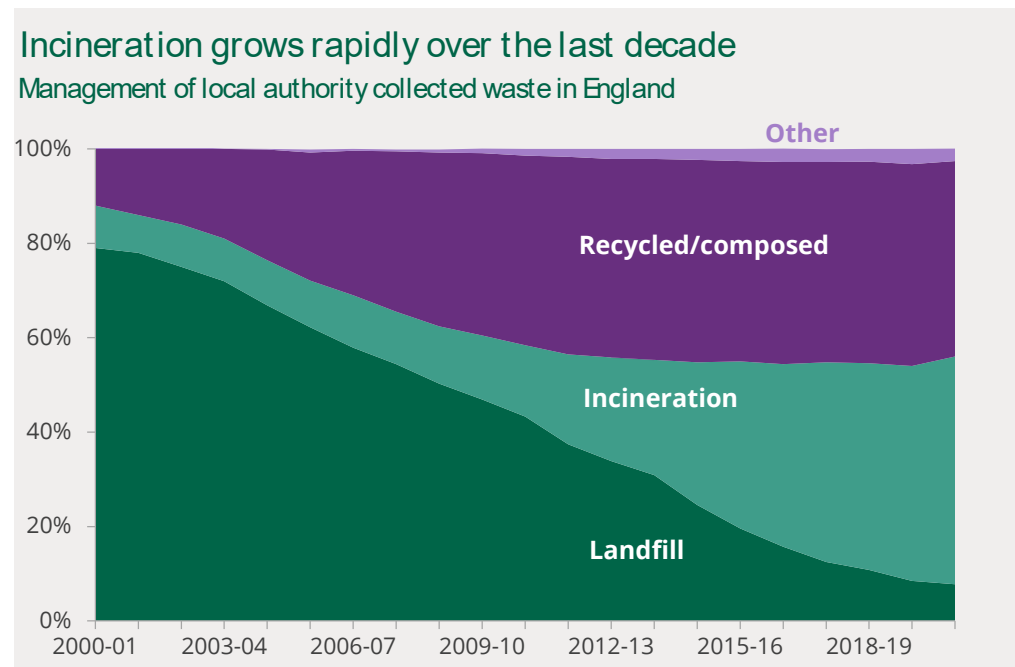
In 2018 household waste, sorting residues⁵⁰ and wood waste made up 98% of waste sent for energy recovery and 82% of waste sent for incineration.

Incineration of municipal waste (collected by local authorities) is much more common than incineration of other waste streams. In 2020-21 48.2% of municipal waste collected in England was incinerated. Almost all of this was with energy recovery. Incineration in England has increased rapidly from just over 12% a decade earlier. In 2018-19 it overtook recycling/composting as

⁴⁹ Climate Change Committee [2022 Progress Report to Parliament](#), June 2022, p377

⁵⁰ Leftover when material for recycling is removed from mixed waste

the largest single municipal waste management method. Trends are shown below



Source: Defra, [Local authority collected waste: annual results tables](#)

Within England incineration rates varied in 2020-21 from below 30% in the Eastern region to 64% in London⁵¹

In 2021-22 28.2% of municipal waste in Wales was incinerated. As in England almost all incineration was with energy recovery.⁵²

In 2021 24.5% of household waste in Scotland was incinerated, up from 9.1% in 2018. The minority was with energy recovery.⁵³

In June 2022, the Committee on Climate Change highlighted several possible reasons for increased use of incineration:

There are several factors behind the rising use of incineration as an alternative to landfill, in the context of stalling recycling rates:

- Incineration is considered to have a lower overall environmental impact compared to landfill – including in terms of emissions, whilst Energy from Waste plants offer an opportunity to recover value from waste feedstocks by generating power and sometimes providing heat.
- Energy from Waste plants have benefitted from a supportive planning and investment policy regime, including Defra’s Waste Infrastructure

⁵¹ [Local authority collected waste: annual results tables](#), Defra

⁵² [Local authority municipal waste management](#), Welsh Government

⁵³ [Household waste discover data tool](#), SEPA

Delivery Programme, which has seen the number of plants grow from 37 in 2016 to 54 by the end of 2020 (not including Incinerators without energy recovery).

- Increasing recycling requires coordinated action across a range complex factors, including public engagement and service provision to improve behaviours, whereas incineration offers a relatively simple disposal option to Local Authorities or businesses. Higher incineration coupled with lower recycling rates can often be observed in urban areas where there might be higher levels of deprivation and more limited access to recycling facilities or services.⁵⁴

⁵⁴ Climate Change Committee [2022 Progress Report to Parliament](#), June 2022, p377

2 Parliamentary material

2.1 PQs

Waste Disposal: Environment Protection

Asked by: Davies, Geraint

To ask the Secretary of State for Environment, Food and Rural Affairs, how the Environment Agency applies the polluter pays principle as part of the environmental permitting process for municipal waste incinerators when balancing the (a) cost to the public of increased pollution with (b) any additional cost to the applicant of additional or alternative measures, technologies or techniques that would lower emissions.

Answering member: Jo Churchill | Department: Department for Environment, Food and Rural Affairs

The polluter pays principle is applied through the permit application fee and subsequent operational subsistence fees. An operator will face incremental increases in their subsistence fees if they breach the conditions of their permit. The EA also has an enforcement and sanctions policy which includes the use of monetary penalties for offences.

The EA will only issue a permit for a municipal waste incinerator if the applicant can demonstrate that they will use best available techniques to prevent and minimise emissions, and that the plant would not give rise to significant pollution of the environment or harm to human health.

HC Deb 06 June 2022 | PQ 9833

Waste Disposal: Environment Protection

Asked by: Davies, Geraint

To ask the Secretary of State for Environment, Food and Rural Affairs, what the average length of time was for the Environment Agency to process a waste installation permit application from point of first application to final determination for the 2021-22 financial year; and what proportion of those applications took longer than six months to process.

Answering member: Jo Churchill | Department: Department for Environment, Food and Rural Affairs

The Environment Agency (EA) determined 28 new waste installation permits for the financial year 2021-22. Waste installation permits are required for activities such as incineration and co-incineration of waste, landfills, other forms of disposal of waste, recovery of waste, temporary or underground storage of hazardous waste and treatment of wastewater.

The average period from the point the EA received a permit application to when a permit was issued was 378 days. Of the 28 applications determined - 89% took over 6 months (180 days).

These are some of the most complex and highest risk activities the EA regulates. These activities have the potential to cause significant harm to the environment and communities if not appropriately assessed and managed.

HC Deb 06 June 2022 | PQ 9831

[Incinerators: Northwich](#)

Asked by: Amesbury, Mike

To ask the Secretary of State for Environment, Food and Rural Affairs, what assessment his Department has made of the role of the Northwich Incinerator in the context of technological changes that mean a greater range of waste that can be recycled; and whether his Department plans to take steps to ensure that recyclable waste is recycled.

Answering member: Jo Churchill | Department: Department for Environment, Food and Rural Affairs

The Environment Agency will regulate the incinerator installation through an Environmental Permit, under Environmental Permitting (England and Wales) Regulations 2016 (EPR). The permit will specify limits for emissions to the environment which are based on the Industrial Emission Directive 2010 and the Waste Incineration Best Available Technique conclusions. The waste types that any incinerator can process are specified by its EPR permit.

Since 2011, businesses that produce and handle waste must follow the Waste Hierarchy set out in Article 4 of the revised Waste Framework (Directive 2008/98/EC). The incinerator will be required to carry out checks on receipt of the waste to verify the description and ensure that it is an acceptable waste code for the plant to receive. The incinerator plant may extract energy from the waste to supply electricity to the National Grid.

HC Deb 19 November 2021 | PQ 71452

Incinerators: Health Hazards

Asked by: Corbyn, Jeremy

To ask the Secretary of State for Environment, Food and Rural Affairs, what assessment has been given to the (a) precautionary principle and (b) potential harmful effect on local residents' health from the release of particulate fumes from incineration, when permission has been granted to build new incinerators.

Answering member: Jo Churchill | Department: Department for Environment, Food and Rural Affairs

(a) The Environment Agency is responsible for issuing permits to allow new incinerators to operate in England. The Health Protection Agency's (now the UK Health Security Agency or UKHSA) response to the 2005 British Society for Ecological Medicine report on the health effects of waste incinerators states "there are no grounds for adopting the 'precautionary principle' to restrict the introduction of new incinerators". The Environment Agency consults UKHSA on every permit application it receives for a new incinerator and is satisfied that this advice remains appropriate.

(b) As part of the permitting process, the Environment Agency carries out a thorough environmental impact assessment of emissions from the proposed plant, including particulate matter, and strict emission limits are included in permits for particulate matter and other pollutants. The Environment Agency will not grant a permit if the proposed plant could give rise to any significant pollution of the environment or harm to human health.

HC Deb 18 October 2021 | PQ 53829

Incinerators

Asked by: Davies, Geraint

To ask the Secretary of State for Environment, Food and Rural Affairs, (a) what recent discussions the Government has had with the Environment Agency on tightening standards under the BAT Conclusions for Waste Incineration issued by the European Commission in 2019; (b) how many permits of existing facilities have been revised in particular for Nitrogen Oxide pollution; and (c) and whether all permits for new facilities reflect these updated limit values and require the use of selective catalytic reduction to abate Nitrogen Oxide pollution.

Answering member: Jo Churchill | Department: Department for Environment, Food and Rural Affairs

(a) Defra meets regularly with the Environment Agency to discuss the implementation of Best Available Techniques (BAT) at regulated facilities. One such meeting was held in July 2021 when the UK Interpretation guidance for the Waste Incineration BAT Conclusions was agreed, including tightening of relevant emission limits.

(b) The Environment Agency has not yet revised any permits for existing facilities in respect of emissions of oxides of nitrogen (NOx). All permits will be revised by the legally required implementation date for the BAT Conclusions for existing plants which is 3 December 2023.

(c) All new permits issued by the Environment Agency since 3 December 2019 reflect the updated limit values for NOx for new plants, but not all of them require the use of selective catalytic reduction.

HC Deb 18 October 2021 | PQ 53159

2.2

Debates

Commons adjournment debate: [Waste Incinerators](#)

Volume 691: debated on Wednesday 24 March 2021

Westminster Hall debate: [Waste Incineration and Recycling Rates](#)

HC Deb 12 January 2021 | Vol 687 c114WH-

Westminster Hall debate: [Waste Incineration Facilities](#)

HC Deb 11 February 2020 | Vol 671 c203WH-

Westminster Hall debate: [Industrial and Commercial Waste Incineration](#)

HC Deb 28 January 2020 | Vol 670 c266WH-

Westminster Hall debate: [Waste Incineration: Regulation](#)

HC Deb 9 April 2019 | Vol 658 c28WH-

3

News items

Materials Recycling World

25 November 2022

Councils oppose Viridor EfW expansion

BBC News Online

23 September 2022

Essex waste incinerator 'better for climate than landfill'

Materials Recycling World

23 September 2022

ESA rejects UKWIN prediction of 'huge EfW over-capacity'

ENDS Report [subscription]

20 June 2022

Council considers legal action over EA energy-from-waste permit

Client Earth

9 March 2021

What are the environmental impacts of waste incineration?

Greenpeace

31 July 2020

UK waste incinerators three times more likely to be in poorer areas

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