EUROPEAN
COMMISSION

Brussels, 31.7.2019
SWD(2019) 118 final/2

CORRIGENDUM
This document corrects document SWD(2019) 118 final of 04.04.2019
Footnote 91 modified and footnote 20 deleted
The text shall read as follows:

COMMISSION STAFF WORKING DOCUMENT

The EU Environmental Implementation Review 2019
Country Report - UNITED KINGDOM

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

Environmental Implementation Review 2019: A Europe that protects its citizens and enhances their quality of life

{COM(2019) 149 final} - {SWD(2019) 111 final} - {SWD(2019) 112 final} -
{SWD(2019) 113 final} - {SWD(2019) 114 final} - {SWD(2019) 115 final} -
{SWD(2019) 116 final} - {SWD(2019) 117 final} - {SWD(2019) 119 final} -
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{SWD(2019) 138 final} - {SWD(2019) 139 final}

This report has been written by the staff of the Directorate-General for Environment, European Commission. Comments are welcome, please send them to ENV-EIR@ec.europa.eu

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Executive summary

UK and the Environmental Implementation Review (EIR)

In the 2017 EIR, the main challenges identified for the United Kingdom for the implementation of EU environmental policy and law were:

- to improve air quality in urban areas, especially by reducing nitrogen dioxide (NO2);
- to tackle water quality, notably water pollution caused by nitrate from agricultural use, but also remaining urban waste water issues such as storm water overflows; and
- to improve nature protection by completing the Natura 2000 designation process for marine sites, focusing more on protecting species and habitats outside the limited UK Natura 2000 terrestrial network and developing an overall protection strategy for dispersed species.

Environmental policy is primarily devolved within the UK, with the devolved administrations (Scotland, Northern Ireland and Wales) responsible for environmental and related economic development measures. The UK government is responsible for implementing environmental policy in England.

Since the 2017 EIR, the United Kingdom has not yet organised an EIR national dialogue that would help it to address the above challenges.

In 2017, the Commission launched the TAIEX-EIR Peer-to-Peer (**EIR P2P**) tool to facilitate peer-to-peer learning between experts from national environmental authorities.

Progress on meeting challenges since the 2017 EIR

On **air quality** in urban zones there has been no change to the compliance situation with regard to the high number of zones with exceedances above the EU air quality standards for nitrogen dioxide. However, in 36 out of 37 zones non-compliant with nitrogen dioxide limit values, latest data shows the UK has made some improvements.

On **water quality**, diffuse pollution, notably from nitrates, remains an issue in parts of the UK.

There has been some progress on **nature protection**, notably on the protection of the harbour porpoise. However, the protection of offshore birds is still a challenge and there is no overall protection strategy for dispersed species to date.

The UK has made progress in phasing out the burning of blanket bogs. The planned actions to bring an end to this infringement are being implemented.

Examples of good practice

- In early 2018, the UK government published a report for the environment in England entitled 'A Green Future: Our 25 Year Plan to Improve the Environment' setting out general, long-term priorities for environmental policy.
- The UK is among the best performing Member States on resource efficiency. Only 4 % of British companies have not taken any resource efficiency measures — the lowest rate in the EU-28 and only 12 % say they do not intend to take any further measures.
- The Central Scotland Green Network aims, among others, to include an integrated habitat network and improve landscape quality. It runs until 2050 and is by far the largest green infrastructure project in Europe, covering the whole of Scotland's central belt and involving 19 local authorities. Several other large-scale projects contribute to this network.
- The use of alternative fuels in new passenger cars sold in the UK has considerably increased over the past few years. In 2016, the share of new passenger cars using alternative fuels was 10 times higher than in 2013 and the total number of new passenger cars using alternative fuels almost quadrupled between 2011 and 2015. Furthermore, the UK is the first Member State that has been able to reduce the 'diesel differential' (difference in the price of diesel versus petrol) to zero.

Part I: Thematic areas

1. Turning the EU into a circular, resource-efficient, green and competitive low-carbon economy

Measures towards a circular economy

The Circular Economy Action Plan emphasises the need to move towards a life-cycle-driven 'circular' economy, reusing resources as much as possible and bringing residual waste close to zero. This can be facilitated by developing and providing access to innovative financial instruments and funding for eco-innovation.

Following the adoption of the Circular Economy Action Plan in 2015 and the setting up of a related stakeholder platform in 2017, the European Commission adopted a new package of deliverables in January 2018[1]. This included additional initiatives such as: (i) an EU strategy for plastics; (ii) a Communication on how to address the interplay between chemical, product and waste legislation; (iii) a report on critical raw materials; and (iv) a framework to monitor progress towards a circular economy[2].

The EU's circular economy monitoring framework tracks key trends and patterns to understand how the various parts of the circular economy are developing and whether sufficient action has been taken. The circular (secondary) use of material in the United Kingdom was 17.2 % in 2016 (EU-28 average 11.7 %).

In the 2017 Special Eurobarometer 468 on attitudes of EU citizens towards the environment, 81 % of British people said they were concerned about the effects of plastic products on the environment (EU-28 average 87 %). 85 % said they were worried about the impact of chemicals (EU-28 average 90 %)[3].

In 2018, the UK committed through its 25 Year Environment Plan[4] to: make sure resources are used more efficiently and kept in use for longer to minimise waste and reduce its environmental impacts, by promoting reuse, remanufacturing and recycling; double resource productivity by 2050; and work towards eliminating all avoidable waste by 2050 and all avoidable plastic waste by 2042. A commitment was also made to publish a new Resources and Waste Strategy due to be published in 2018.

The commitment to raising resource productivity was also stated in the Government's overarching Industrial Strategy[5].

The 2016 updated **Greening Government Commitment** includes commitments to increase the sustainability of the government estate. The target to reduce overall waste arising by 32 % is particularly relevant for the circular economy, as is the target to increase recycling to 59 % of all waste.

In April 2018, the UK government announced its intention to tackle marine litter and create more circularity in the plastics industry by taking action on some single-use-plastics items. On a domestic level, this has included supporting the Plastics Pact, a collaborative industry initiative led by WRAP and supported by the Ellen MacArthur Foundation. On an international level, this includes establishing the Commonwealth Clean Oceans Alliance (CCOA) and initiating the Global Plastics Action Partnership which helps deliver the CCOA goals, as well as supporting other EU and international initiatives, including the Ellen MacArthur Foundation's New Plastics Economy Global Commitment and the G7 Ocean Plastics Charter.

In 2017, the London Waste and Recycling Board published a strategic roadmap entitled 'Towards a Circular Economy'[6], which sets out London's route to a circular economy. Studies commissioned by local authorities estimate potential benefits to the city of up to GBP 7 billion a year by 2036. Moreover, 12 000 new jobs in the areas of reuse, remanufacturing and materials innovation should be created by 2030 thanks to the roadmap's measures.

In 2017, the Welsh government's economic action plan introduced the circular economy as a key target for investments. In particular, the action plan set up a GBP 6.5 million capital fund for 2019-2020 to promote the circular economy in the country.

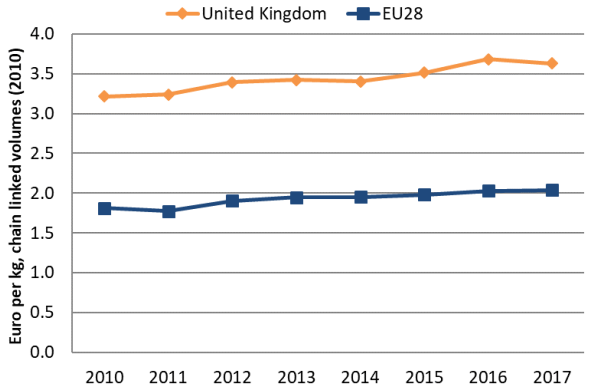
The LIFE REBus project aims to create more resource-efficient business models. After a trial phase in the UK

[1] European Commission, 2018 Circular Economy Package.
[2] COM(2018) 029.
[3] European Commission, 2017, Special 486 Eurobarometer, 'Attitudes of European citizens towards the environment'.
[4] Government of the United Kingdom, A Green Future: Our 25 Year Plan to Improve the Environment.
[5] Government of the United Kingdom, Industrial Strategy: building a Britain fit for the future
[6] London Waste & Recycling Board, 2015. Towards a Circular Economy

and the Netherlands, more than 62 000 tonnes of materials have been saved. Scaling up the benefits could result in 184 million tonnes of direct material savings and 172 million tonnes of material being diverted (for reuse, recycling, etc.) in the EU[7].

The UK is among the best performing Member States on resource efficiency (how efficiently the economy uses material resources to produce wealth) with 3.63 EUR/kg in 2017 (EU average 2.04) (see Figure 1). UK's resource productivity has increased since 2015. Resource productivity[8] is higher in high-income countries and in economies with larger service sectors.

Figure 1: Resource productivity 2010-2017[9]



The number of EU Ecolabel products and EMAS-licensed organisations (EMAS is the European Commission's Eco-Management and Audit Scheme – a programme to encourage organisations to behave in a more environmentally sustainable way) in a country can give a rough measurement of the circular economy transition. These two indicators show to what extent this transition is engaging the private sector and other national stakeholders. These two indicators also show the commitment of public authorities to policies that support the circular economy. As of September 2018, the UK had 110 products and 2620 licences registered in the EU Ecolabel scheme, out of a total of 71 707 products covered by 2 167 licences in the EU.[10]. Moreover, 22 organisations from the UK were registered in EMAS[11].

SMEs and resource efficiency

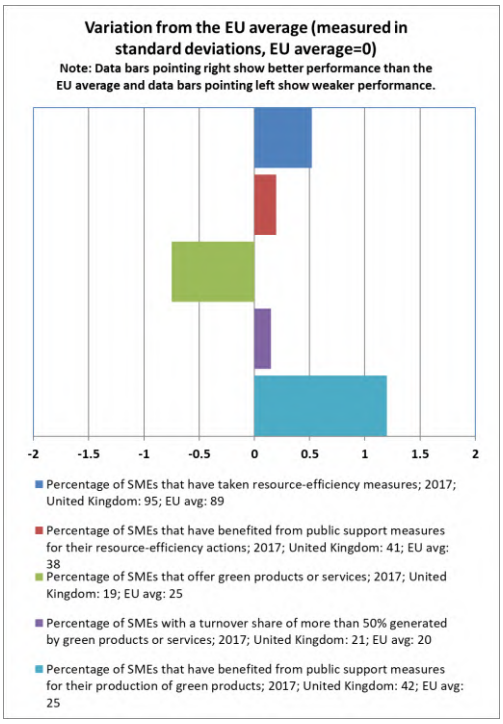
British SMEs continue to perform in line with the EU-28 average in the environmental aspects of the Small Business Act (see Figure 2).

Companies taking resource efficiency measures receive more public support than the EU average. In addition to that, support is more easily available to companies that want to develop a green profile with specific green products.

The latest Eurobarometer on 'SMEs, resource efficiency and green markets'[12] asked companies about both recent resource-efficiency actions they had taken and additional resource-efficiency actions they planned to take in the next 2 years. The Eurobarometer then compared these responses with responses given to the same questions in 2015. Only 4 % of British companies have not taken any resource efficiency measures recently – the lowest rate in the EU-28. Moreover, only 12% express the intention not to take any further measures. The Eurobarometer also shows that British SMEs are the most ambitious in terms of minimising waste and increasing recycling in the future.

At 22 %, the proportion of British companies that rely on external support in their efforts to be more resource efficient is in line with the EU average (EU range 3 %-38 %). Only 17 % and 15 %, respectively, have used public and private sources of finance for their investment, compared to 24 % and 30 % in EU-28.

Figure 2: Environmental performance of SMEs[13]



[7] Wrap UK and Dutch Ministry of Infrastructure and the Environment, The REBus Project, 2017, p. 6.
[8] Resource productivity is defined as the ratio between gross domestic product (GDP) and domestic material consumption (DMC).
[9] Eurostat, Resource productivity.
[10] European Commission, Ecolabel Facts and Figures.
[11] As of May 2018. European Commission, Eco-Management and Audit Scheme.
[12] Flash Eurobarometer 456 'SME, resource efficiency and green markets' January 2018. The 8 dimensions were Save energy; Minimise waste; Save materials; Save Water; Recycle by reusing material internally; Design products easier to maintain, repair or reuse; Use renewable energy; Sell scrap materials to another company.
[13] European Commission, 2018 SBA fact sheet – UK, p.15.

Among British companies, 36 % find grants and subsidies helpful whereas external consultancy on resource efficiency is deemed to be less useful (12 % vs an EU average of 23 %) and 30 % do not consider any type of assistance to be useful for their resource efficiency projects.

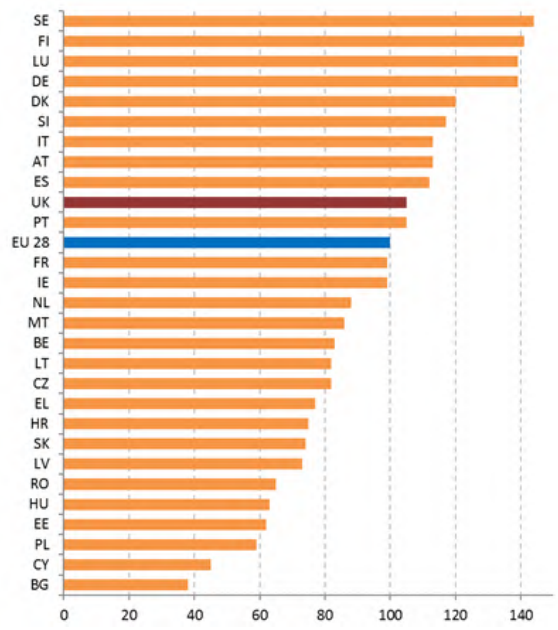
Although British companies' ambitions to invest in resource efficiency are declining, they are still very high, particularly for waste and recycling. The business sector is well aware of the potential and very few companies do not intend to take further measures.

The low appreciation of consulting services is surprising for a mature market. However, business associations are considered as the major source of advice. Strengthening these associations to provide a wider range of services could therefore be a good next step.

Eco-innovation

The UK ranked 5th on the 2018 European Innovation Scoreboard[14]. However, with a total score of 105 in the 2017 Eco-innovation Scoreboard, the UK ranked only 11th in the EU.

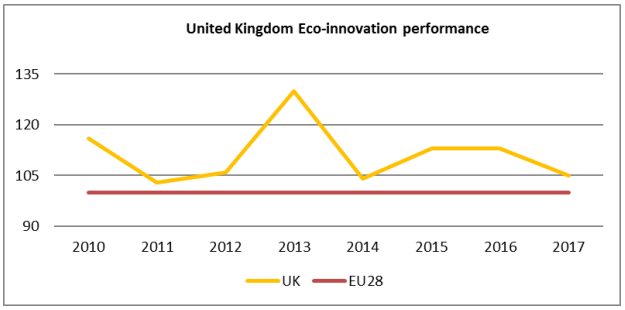
Figure 3: 2017 Eco-innovation index (EU=100)[15]



As shown in Figure 4, since 2011, the UK's eco-innovation performance has been just above the EU average, although it has decreased from its maximum of 130 points in 2013.

The main drivers for eco-innovation in the UK are the growing market demand for eco-industry and clean-tech sector products, building and construction sector and investment in renewable energy. Access to more advanced information technology and changes in business models is encouraging a behavioural change towards sustainability. Furthermore, the mission Innovation and Horizon 2020 programmes provide extra funding for research into disruptive technologies.

Figure 4: UK's eco-innovation performance



However, there are a number of barriers to eco-innovation. The main ones are: (i) the cost of virgin versus secondary materials; (ii) difficulty in accessing financing and capital investment; and (iii) mainstream accounting and financial reporting procedures, which often do not favour circular business models.

Moreover, greater understanding is needed of how consumers can benefit and in what areas, and how to help them make informed choices when they buy products and services. Businesses often do not have the capacity (in terms of time and money) or capability (skills) to identify and benefit from the significant economic advantages.

Noteworthy recent eco-innovation initiatives include: (i) the clean growth strategy for further improvements in meeting the national carbon commitments; and (ii) the long-range industrial strategy to boost the productivity and earning power of people living in the country. The industrial strategy aims to reach zero avoidable waste and double resource productivity by 2050, for example through a 25-year environment plan and a new strategy for resources and waste.

Innovate UK and the waste & resources action programme (WRAP) are especially active in encouraging sustainable resource use, including waste prevention, reuse, recovery and recycling. These initiatives aim to create a circular economy and help develop new markets for existing waste products. Examples of flagship projects include 'the great recovery project', and REALCAR [16].

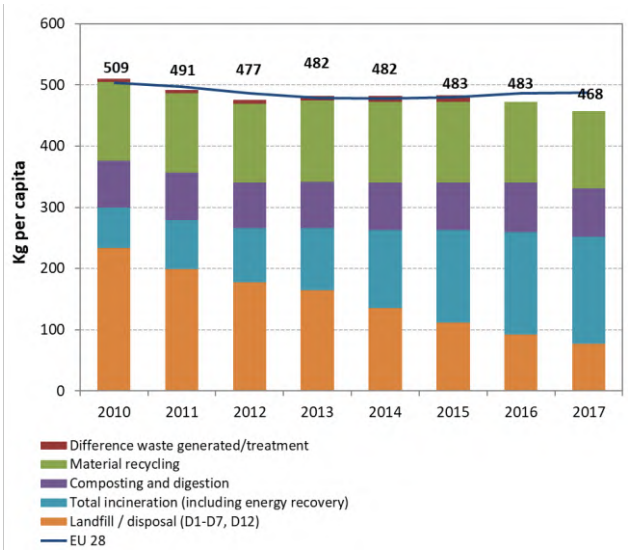
[14] European Commission, European Innovation Scoreboard 2018, p. 15.
[15] Eco-innovation Observatory: Eco-Innovation scoreboard 2017.
[16] European Commission, Eco-Innovation Observatory, Country profile 2016-2017: United Kingdom.

Waste management

Turning waste into a resource is supported by:
(i) fully implementing EU waste legislation, which includes the waste hierarchy, the need to ensure separate collection of waste, the landfill diversion targets, etc.;
(ii) reducing waste generation and waste generation per capita in absolute terms; and
(iii) limiting energy recovery to non-recyclable materials and phasing out landfilling of recyclable or recoverable waste.

This section focuses on management of municipal waste[17] for which EU law sets mandatory recycling targets[18].

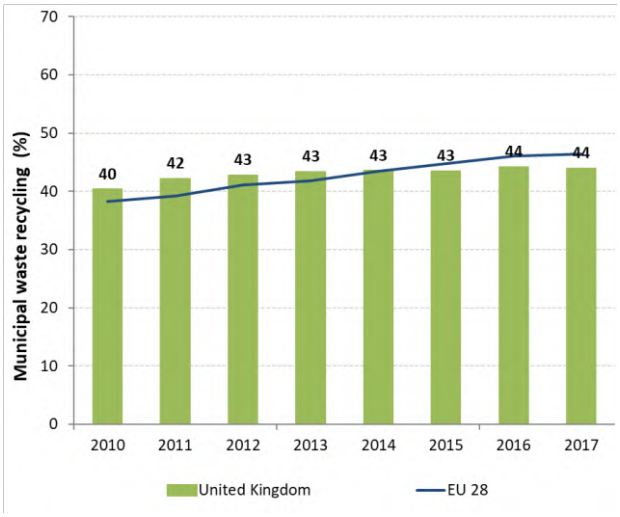
Figure 5: Municipal waste by treatment in the United Kingdom 2010-2017[19]



The UK's performance in municipal waste generation has been stable in recent years, but with a marked decrease in 2017 (Figure 3). That year, the amount of waste it generated was below the EU average (468 kg/y/inhabitant compared to 487 kg/y/inhabitant). Figure 5 shows the UK's municipal waste by treatment in terms of kg per capita revealing an increase in incineration and a decrease in landfilling. Incineration is above the EU average (37 % vs 27 % for EU-28), while landfilling is slightly below the average (16 % vs 24 %).

Recycling accounts for 44 % of municipal waste (including composting which accounts for 17 %), although the UK has been stuck at this level for the past few years. In principle, the UK is not considered at high risk of missing the 50 % recycling target by 2020. However further efforts are needed to meet the 2020[20] and post-2020 recycling targets[21].

Figure 6: Recycling rate of municipal waste 2010-2017[22]



Additional initiatives are needed to decrease landfilling further. Any future investments in incineration (energy recovery) or in mechanical biological treatment plants based on mixed waste should be planned in a way that they do not prevent the UK from meeting the 50 % municipal waste recycling target in 2020.

The UK's landfill tax has started to produce clear results on reducing landfilling. The tax, which is currently one of the highest in Europe, has effectively reduced the disposal of waste, thus increasing the recycling of dry materials and food waste. In addition, various new national targets have led to an increase in recycling, especially of dry goods.

The UK has also had a plastic bag charge in place, since 2015, which is estimated to have taken 15.6bn plastic bags out of circulation.

Limited extended producer responsibility (EPR) (which covers a few waste streams) or equivalent systems are in place but they cannot cover the full costs of separate

[17] Municipal waste consists of mixed waste and separately collected waste from households and from other sources, where such waste is similar in nature and composition to waste from households. This is without prejudice to the allocation of responsibilities for waste management between public and private sectors.
[18] See Article 11.2 of Directive 2008/98/EC. This Directive was amended in 2018 by Directive (EU) 2018/851, and more ambitious recycling targets were introduced for the period up to 2035.
[19] European Commission, Eurostat, Municipal waste by waste operations.
[20] Member States may choose a different method than the one used by ESTAT (and referred to in this report) to calculate their recycling rates and track compliance with the 2020 target of 50% recycling of municipal waste.
[21] Directive (EU) 2018/851, Directive (EU) 2018/852, Directive (EU) 2018/850 and Directive (EU) 2018/849 amend the previous waste legislation and set more ambitious recycling targets for the period up to 2035. These targets will be taken into consideration to assess progress in future Environmental Implementation Reports.
[22] European Commission, Eurostat, Recycling rate of municipal waste.

collection and recycling of the main waste streams.

Waste management is a devolved matter in UK, with Scotland, Wales and Northern Ireland having separate policy arrangements. Local Authorities in Wales have been set local statutory recycling targets (reaching 70% for 2025) and in 2017/18 the municipal waste recycling rate in Wales was 63%. In 2017/18, 71% of local authorities in the UK collected the 5 widely recycled materials (paper, glass, metal, card and plastic bottles) plus plastic pots tubs and trays and 59% collected food waste to be recycled.

2019 priority actions

- Introduce new policies, including economic instruments (e.g. pay-as-you-throw), to promote waste prevention, make reuse and recycling more economically attractive and shift reusable and recyclable waste away from landfilling and incineration.
- Mandate separate food waste collection and introduce minimum service specifications to cover the different aspects of the waste collection service.
- Continue to look at alternatives to exports or landfilling of recyclable or recoverable waste. Use revenues from economic instruments to support the separate collection and alternative infrastructure.
- Improve the functioning of extended producer responsibility systems, in line with the general minimum requirements on EPR[23].

[23] Set out in Directive (EU) 2018/851 amending Directive 2008/98/EC.

Climate change

The EU has committed to undertaking ambitious climate action internationally as well as in the EU, having ratified the Paris Climate Agreement on 5 October 2016. The EU targets are to reduce greenhouse gas (GHG) emissions by 20 % by 2020 and by at least 40 % by 2030, compared to 1990. As a long-term target, the EU aims to reduce its emissions by 80-95 % by 2050, as part of the efforts required by developed countries as a group. Adapting to the adverse effects of climate change is vital to alleviate its already visible effects and improve preparedness for and resilience to future impacts.

The EU emissions trading system (EU ETS) covers all large greenhouse gas emitters in the industry, power and aviation sectors in the EU. The EU ETS applies in all Member States and has a very high compliance rate. Each year, installations cover around 99 % of their emissions with the required number of allowances.

For emissions not covered by the EU ETS, Member States have binding national targets under the Effort Sharing legislation. The UK had lower emissions than its annual targets in each of the years 2013-2017. For 2020, the UK's national target under the EU Effort Sharing Decision is to reduce emissions by 16 % compared to 2005. For 2030, the UK's national target under the Effort Sharing Regulation will be to reduce emissions by 37 % compared to 2005.

Domestically, the Climate Change Act 2008 committed the UK to a long-term target to reduce greenhouse gas emissions by at least 80% by 2050 when compared to 1990 levels, through a process of setting five year caps on greenhouse gas emissions termed ‘carbon budgets’. The Clean Growth Strategy, published in October 2017, sets out the UK Government’s plan for decarbonising the UK economy through to 2032, in order to keep it on track to meet its carbon budgets. Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities. Transport emissions in the United Kingdom increased by 6 % from 2013 to 2016.

The F-gas Regulation requires Member States to run training and certification programmes, introduce rules for penalties and notify these measures to the Commission by 2017. The United Kingdom has notified both measures. The United Kingdom also ratified the Kigali Amendment to the Montoreal Protocol to reduce consumption of HFCs by 85% by 2035.

The accounting of GHG emissions and removals from forests and agriculture is governed by the Kyoto Protocol. Preliminary accounting for 2013-2016 shows net credits of, on average, -1.3 Mt CO_2-eq per year, which

corresponds to 1.1% of the EU-28 accounted sink of -115.7 Mt CO_2-eq.

Figure 7: Change in total greenhouse gas emissions 1990-2017 (1990=100%)[24].

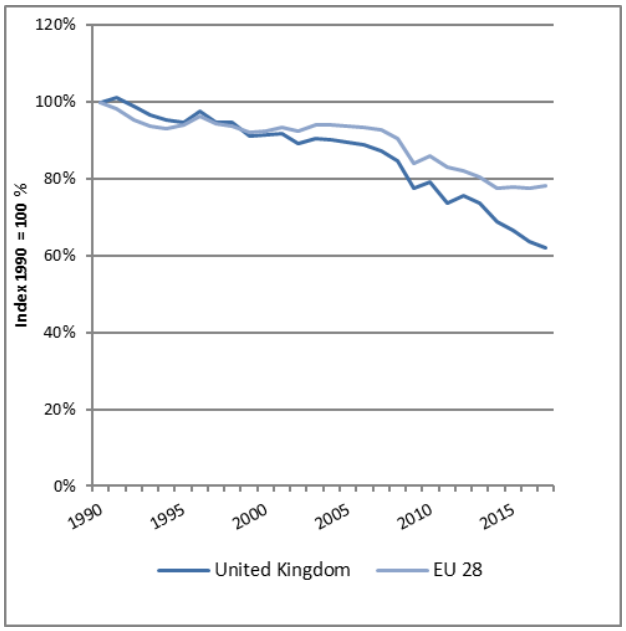
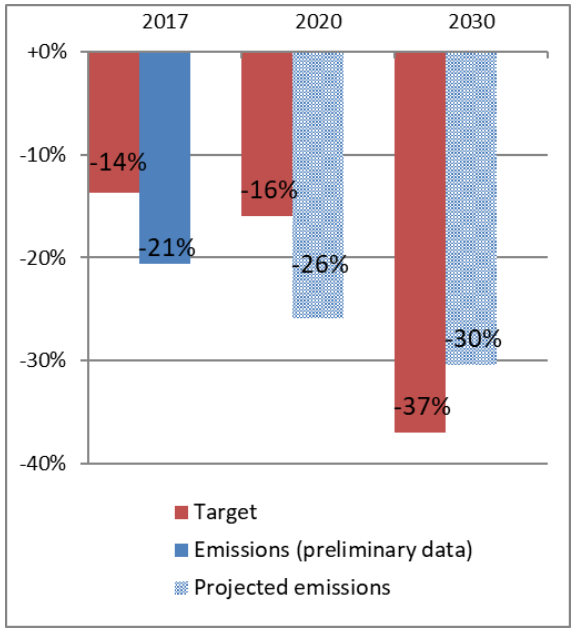
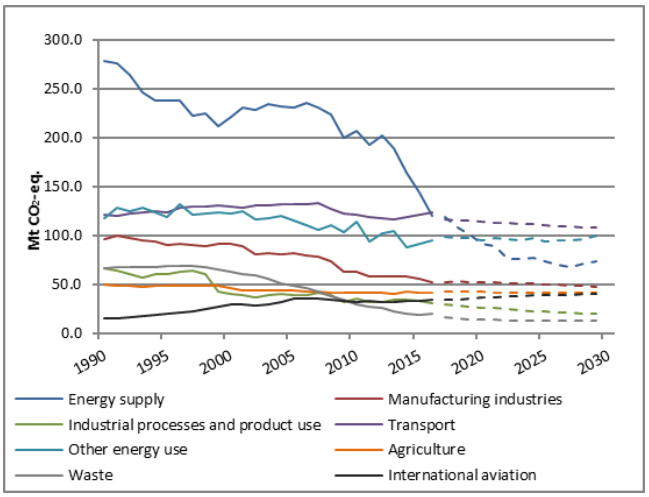


Figure 8: Targets and emissions for the UK under the Effort Sharing Decision and Effort Sharing Regulation[25].



The EU Strategy on adaptation to climate change, adopted in 2013, aims to make Europe more climate-resilient, by promoting action by Member States, better-informed decision making, and promoting adaptation in key vulnerable sectors. By adopting a coherent approach and providing for improved coordination, it seeks to enhance the preparedness and capacity of all governance levels to respond to the impacts of climate change.

Figure 9: Greenhouse gas emissions by sector (Mt. CO2-eq.). Historical data 1990-2016. Projections 2017-2030[26].



The UK Climate Change Act 2008 sets the framework for adapting to climate change. The Act requires a climate change risk assessment (CCRA) every five years, to be followed by a national adaptation programme (NAP) to address the priority risks identified in the CCRA. UK government published the first NAP in 2013, which addressed the risks identified in the first CCRA published in 2011. The second UK CCRA was published in January 2017 and the second NAP was published in July 2018. The first NAP sets out actions for national and local government, industry and some non-governmental organisations.

The actions fall within six thematic areas: natural environment, infrastructure, people and built environment, business and industry, and local government. The Climate Change Act also gives UK government the power to require significant infrastructure sectors and public bodies to identify the climate risks that affect them and report on their actions to address them – reporting rounds began in 2009 and 2013 and the third strategy for adaptation reporting was published alongside the NAP.

[24] Annual European Union greenhouse gas inventory 1990–2016 (EEA greenhouse gas data viewer). Proxy GHG emission estimates for 2017 Approximated EU greenhouse gas inventory 2017 (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

[25] Proxy GHG emission estimates for 2017 Approximated EU greenhouse gas inventory 2017 (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

[26] Annual European Union greenhouse gas inventory 1990–2016 (EEA greenhouse gas data viewer). Proxy GHG emission estimates for 2017Approximated EU greenhouse gas inventory 2017 (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

The reporting window will open in January 2019 and close in December 2021. Monitoring of overall progress on NAP actions and UK's resilience to climate change is undertaken by the Adaptation Sub-Committee of the independent UK Climate Change Committee. The first progress report on the second NAP will be published by the ASC in June 2019.

The total revenues from the auctioning of emission allowances under the EU ETS over the years 2013-2017 were EUR 2 512 million. The United Kingdom does not earmark auctioning revenues for specific uses. An amount equalling 100 % of the auctioning revenues has been reported as spent on climate and energy purposes.

2019 priority action

In this report, no priority actions have been included on climate action, as the Commission will first need to assess the draft national energy and climate plans which the Member States needed to send by end of 2018. These plans should increase the consistency between energy and climate policies and could therefore become a good example of how to link sector-specific policies on other interlinked themes such as agriculture-nature-water and transport-air-health.

2. Protecting, conserving and enhancing natural capital

Nature and biodiversity

The EU biodiversity strategy aims to halt the loss of biodiversity in the EU by 2020. It requires full implementation of the Birds and Habitats Directives to achieve favourable conservation status of protected species and habitats. It also requires that the agricultural and forest sectors help to maintain and improve biodiversity.

Biodiversity strategy

England, Scotland and Northern Ireland have finished revising their strategies. England has adopted 'Biodiversity 2020: a strategy for England's wildlife and ecosystem services' [27] Scotland adopted the '2020 Challenge for Scotland's Biodiversity'[28] in 2013. Northern Ireland published 'Valuing Nature — A Biodiversity Strategy for Northern Ireland to 2020'[29] in 2015. Wales published the Nature Recovery Action Plan for Wales in 2015[30]. A UK-wide post-2010 biodiversity framework[31] has also been developed. Furthermore, in early 2018, the UK published a report entitled 'A Green Future: Our 25 Year Plan to Improve the Environment'[32], setting out a long-term strategy for the environment in England, including nature and biodiversity goals.

Setting up a coherent network of Natura 2000 sites

On the basis of the latest update on the assessment of the Birds and Habitats directives, the UK's terrestrial Natura 2000 network under the Birds and Habitats Directives is now considered to be complete.

The UK has designated 275 Special Protection Areas (SPAs) under the Birds Directive and 660 sites under the Habitats Directive. By early 2018, 8.6 % of the national land area of UK was covered by Natura 2000 sites (EU average 18.2 %), with Birds Directive SPAs covering 6.6 % (EU average 12.4 %) and Habitats Directive sites of Community importance (SCIs) covering 5.4 % (EU average 13.9 %). The UK has the second lowest percentage of land designated under Natura 2000 in the EU (Denmark is the lowest at 8.3 %).

Designating Natura 2000 sites and setting conservation objectives and measures

The Commission has consistently urged the UK to do more for species and habitats outside this limited terrestrial network. The UK has vast marine areas and the marine designation process is slowly progressing. The UK has designated all terrestrial sites as special areas of conservation (SACs). The main pressure on nature appears to come from agriculture (see the reports based on Article 12 of the Birds Directive and Article 17 of the Habitats Directive), possibly because of too much reliance on voluntary compliance.

Progress in maintaining or restoring favourable conservation status of species and habitats

Considering that Member States report every 6 years on the progress made under both directives, no new information is available on the state of natural habitats and species, or on progress made in improving the conservation status of species and habitats in the United Kingdom, as compared to the 2017 EIR.

Overall, it is acknowledged that *improvements* in the status of species and habitats have recently been reported in United Kingdom.

2019 priority actions

- Complete the Natura 2000 designation process — in particular in the UK's extensive marine waters — for birds, species and habitats. Put in place clearly defined conservation objectives and the necessary conservation measures for the sites. Provide adequate resources so that they may meet their objective of maintaining or restoring species and

[27] Department for Environment, Food and Rural Affairs (England) Biodiversity 2020: a strategy for England's wildlife and ecosystem services.
[28] The Scottish Government, 2020 Challenge for Scotland's Biodiversity.
[29] The Department of the Environment (UK), Valuing Nature — A Biodiversity Strategy for Northern Ireland to 2020.
[30] Welsh Government, Nature Recovery Action Plan for Wales.
[31] Government of the United Kingdom, UK-wide post-2010 biodiversity framework.
[32] Government of the United Kingdom, A Green Future: Our 25 Year Plan to Improve the Environment.

habitats of community interest to a good conservation status across their natural range.
- Improve knowledge and increase data availability to implement appropriate conservation measures better and ensure high quality assessments of any plans or projects with a possible impact on protected features.
- Continue to support a sustainable partnership for biodiversity protection, sustainable development and climate change adaptation and mitigation measures in the ORs and the OCTs.

Maintaining and restoring ecosystems and their services

The EU biodiversity strategy aims to maintain and restore ecosystems and their services by including green infrastructure in spatial planning and restoring at least 15 % of degraded ecosystems by 2020. The EU green infrastructure strategy promotes the incorporation of green infrastructure into related plans and programmes.

The EU has provided guidance on the further deployment of green and blue infrastructure in the UK[33] and a country page on the Biodiversity Information System for Europe (BISE)[34]. This information will also contribute to the final evaluation of the EU Biodiversity Strategy to 2020.

Green infrastructure provides ecological, economic and social benefits by offering natural solutions that help overcome fragmentation of habitats, that preserve or restore ecological connectivity and that help us adapt to climate change. Green infrastructure improves the resilience of ecosystems thereby ensuring that ecosystem services continue to be provided. Finally, it helps people understand the benefits of nature and it can help mobilise the investments that will maximise these benefits.

The term 'green infrastructure' has different meanings within the UK. Due to a narrower definition of the term, in many areas green infrastructure initiatives focus on urban green spaces and growth areas rather than the wider environment.

Wider action for networks of green or blue natural and semi-natural area tend to be covered by biodiversity, environment or marine plans and strategies in each of the four countries of the UK. There is therefore no overarching or specific urban policy framework for green infrastructure in the UK. However, the 2018 25-year environment plan[35] out green infrastructure measures, among others, to produce national standards in this area.

Many environmental policies and measures contribute indirectly to green infrastructure goals in the UK. All four countries have a biodiversity strategy or plan which includes green infrastructure activities. Many green infrastructure measures are implemented by or funded through NGOs or wider civil society, such as the 'Living Landscapes'[36] initiative through which 150 landscapes are restoring wildlife to the extended landscape. Similarly, a growing number of businesses now take 'natural capital' approaches as they recognise the benefits of having green infrastructure in their developments and assets.

England

Several cities' strategies recognise the importance of green infrastructure and aim to maintain and increase it. London has several related initiatives, including the 2050 London Infrastructure Plan, which supports green infrastructure, and the London Plan, which encourages the protection and maintenance of trees and the planting of new trees and woodlands.

Scotland

The Central Scotland Green Network aims, among others, to have an integrated habitat network and better landscape quality. It runs until 2050 and is by far the largest green infrastructure project in Europe, covering the whole of Scotland's central belt and involving 19 local authorities. Several other large-scale projects contribute to this network.

Wales

In accordance with the 2016 Environment (Wales) Act, the Welsh Ministers have published a national natural resources policy setting out the Welsh government's policies to manage natural resources sustainably. Increasing green infrastructure in and around urban areas is one of the key aims.

Northern Ireland

Several green infrastructure initiatives are under way in Northern Ireland, for example the Connswater Community Greenway[37], a GBP 40 million project in Belfast to produce a 9km linear park connecting open and green spaces.

Green infrastructure concepts have been incorporated into many policy areas in the UK, mainly at the devolved level of government. Scotland has been a leader in incorporating these issues into forest policy and

[33] The recommendations of the green infrastructure strategy review report and the EU Guidance on a strategic framework for further supporting the deployment of EU-level green and blue infrastructure.
[34] Biodiversity Information System for Europe.
[35] Government of the United Kingdom, A Green Future: Our 25 Year Plan to Improve the Environment.
[36] The Wildlife Trusts: Living Landscapes.
[37] Connswater Community Greenway.

management through its Forest Habitat Network initiative[38], which has led to nationwide policies. The urban green infrastructure concept has also been incorporated into spatial planning policies across the UK. There have been a number of initiatives by water companies to manage land in a way that improves water quality at a low cost, while also improving the condition of habitats and storing carbon.

The Chartered Institution of Water and Environmental Management and the Wildfowl and Wetlands Trust published a report entitled 'A Place for sustainable drainage systems (SuDS)'[39] in 2017 to coincide with a review of the government's own SuDS policy. The report called for more promotion of sustainable urban drainage systems and green infrastructure. In August 2018 the government published a review of the application and effectiveness of planning policy for SuDS in England[40]. Policies regarding transport infrastructure also mention the role of green infrastructure.

Funding availability is a constraint for green infrastructure projects, particularly as funding timeframes may be shorter than the time needed to demonstrate results. Such initiatives are financed through a mix of public funds and private initiatives. Agri-environment measures funded through common agricultural policy (CAP) rural development programmes are by far the largest source of funding for the management and restoration of semi-natural habitats in protected areas and farmland in the wider countryside. In April 2018, £10m of funding for peatland restoration was allocated to four large-scale peatland restoration projects. The projects will restore peatland ecosystems, for wildlife and as a contribution to mitigating climate change. The Government will provide £10m of funding for local community street trees and urban trees, integrating them with accessible greenspace to provide a healthier environment for people. This is in addition to providing £50m for tree planting through a Woodland Carbon Guarantee scheme.

The UK has been very successful in being awarded LIFE nature projects, which provide a large part of green infrastructure funding. In Scotland, a green infrastructure fund is available through the 2014-2020 ERDF as part of the GBP 37.5 million Green Infrastructure Strategic Intervention[41], led by Scottish Natural Heritage.

Manchester and Glasgow are participating in the EU 'EnRoute' project[42] entitled 'enhancing the resilience of urban ecosystems through green infrastructure', which runs from 2017 until 2018. The project aims to introduce the MAES approach into local policies to help the roll out of green infrastructure in more cities and towns.

Estimating natural capital

The EU biodiversity strategy calls on Member States to map and assess the state of ecosystems and their services[43] in their national territories by 2014, assess the economic value of such services and integrate these values into accounting and reporting systems at EU and national level by 2020.

The UK implemented MAES before 2016 through the national ecosystem assessments (NEA). It has made progress on economic valuation and accounting. In the follow-up to NEA, adaptive management principles have been developed to guide the inclusion of ecosystem services in policy and decision making[44]. The UK NEA is also part of the wider 'living with environmental change' initiative, through which the ecosystem task force (ETF) aims to make evidence, knowledge and tools available to practitioners in a form that supports everyday decision making for the sustainable management of natural resources. The ETF will examine outputs from the NEA (FO), BESS (biodiversity, ecosystem services and sustainability), the 'insect pollinators' initiative and ESPA (Ecosystem services for poverty alleviation) projects with a view to exchanging knowledge on the projects and making the best use of their results so that they can advise businesses and local authorities.

Several long-term interdisciplinary research programmes are under way on the benefits of natural capital and on how to better promote the environment in valuation and decision making.

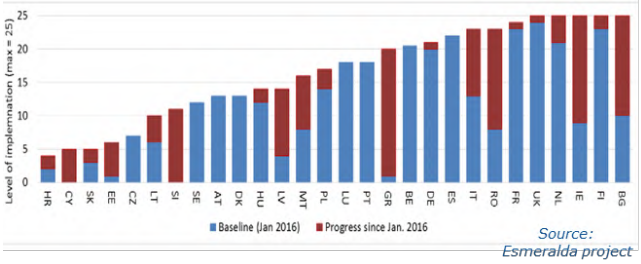
At the MAES working group meeting held in Brussels in September 2018, it was shown that the UK has made limited progress in implementing MAES (see Figure 10), mainly because it is already one of the best performers in the EU. This assessment was made by the ESMERALDA project[45] and based on 27 implementation questions. The assessment is updated every six months.

Business and biodiversity platforms, networks and communities of practice are key tools for promoting and facilitating natural capital assessments among business

[38] Forest Research: habitat networks.
[39] The Chartered Institution of Water and Environmental Management and the Wildfowl and Wetlands Trust, Report a Place for sustainable drainage systems.
[40] Government of the United Kingdom, A review of the application and effectiveness of planning policy for sustainable drainage systems.
[41] Scottish Natural Heritage, Green Infrastructure Strategic Intervention.
[42] EU 'EnRoute' project, Enhancing the resilience of urban ecosystems through green infrastructure.
[43] Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends.
[44] UK National Ecosystem Assessment.
[45] EU project ESMERALDA.

and financial service providers, for instance via the Natural Capital Coalition's protocol[46]. The assessments contribute to the EU biodiversity strategy by helping private businesses better understand and value both their impact and dependence on nature. Biodiversity platforms have been established at EU level[47] and in a number of Member States.

Figure 10: Implementation of MAES (September 2018)



The University of Cambridge has set up the Cambridge Institute for Sustainability Leadership (CISL)[48], which runs the natural capital leaders platform. This platform gathers those companies that have a significant impact and dependence on the environment and that are willing to take action to review, value, re-design strategies, set targets and report on natural capital use. The Scottish forum on natural capital[49] brings together public, private and voluntary sector organisations to protect and rebuild Scotland's natural capital.

Invasive alien species

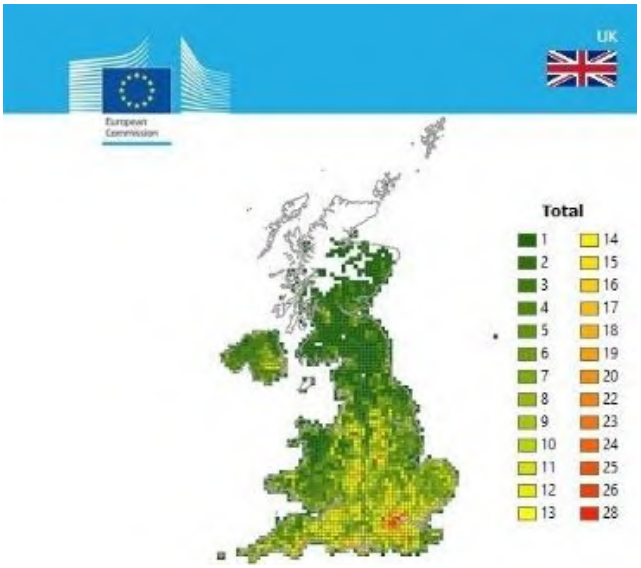
Under the EU biodiversity strategy, the following are to be achieved by 2020:
(i) invasive alien species identified;
(ii) priority species controlled or eradicated; and
(iii) pathways managed to prevent new invasive species from disrupting European biodiversity.
This is supported by the Invasive Alien Species (IAS) Regulation, which entered into force on 1 January 2015.

Invasive alien species (IAS)[50] are animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for their new environment. They are a major threat to native plants and animals in Europe and cause damage worth billions of euros to the EU economy every year. Climate change will probably lead to an increase in invasive species in the future.

The IAS Regulation provides for measures on species included in a list of invasive alien species of EU concern[51] to be taken across the EU. These measures relate to prevention, early detection and rapid eradication and management. Both Member States and the European Commission may propose species to be included on the list, based on risk assessments.

The report on the baseline distribution (see Figure 11), for which the UK could only review its country-level data (and not the grid-level data), shows that of the 37 species on the first EU list, 23 have already been observed in the UK. Of these, 18 IAS are established in the UK with the grey squirrel (*Sciurus carolinensis*), muntjac deer (*Muntjacus reevesi*), signal crayfish (Pacifastacus leniosculus), curly waterweed (*Lagarosiphon major*) and parrot's feather (*Myriophyllum aquaticum*) being the most widespread.

Figure 11: Number of IAS of EU concern, based on available georeferenced information for the UK[52]



The Asian hornet (*Vespa velutina*) has been detected in the UK in every year since 2016. This is the only species for which the UK has been required to submit early detection notifications, under Article 16(2) of the IAS Regulation. The UK has extensive surveillance in place to detect this species and investigate any sightings, and has destroyed several nests, eradicating every population to date. The number of early detections demonstrates the

[46] Natural Capital Coalition, Natural Capital Protocol.
[47] Business and Biodiversity, The European Business and Biodiversity Campaign aims to promote the business case for biodiversity in the EU Member States through workshops, seminars and a cross media communication strategy.
[48] The Natural Capital Leaders Platform.
[49] Scottish Forum on Natural Capital.
[50] European Commission, Invasive alien species.
[51] European Commission, List of Invasive Alien Species of Union.
[52] Tsiamis K; Gervasini E; Deriu I; D`amico F; Nunes A; Addamo A; De Jesus Cardoso A. Baseline Distribution of Invasive Alien Species of Union concern. Ispra (Italy): Publications Office of the European Union; 2017, EUR 28596 EN, doi:10.2760/772692.

invasion pressure originating from the invasion in France, even with the Channel between the two countries.

The UK has notified the Commission of its competent authorities responsible for implementation of the IAS Regulation in accordance with its Article 24(2). The national acts in Wales, Scotland, Northern Ireland and England with the relevant national provisions on penalties for infringements (Article 30(4) of the Regulation) are still being prepared and should be adopted in spring 2019.

2019 priority action

- The UK is urged to swiftly adopt national legislation to comply with obligations required by Article 30(4) of the IAS Regulation and notify the Commission in this regard.

Soil protection

The EU soil thematic strategy underlines the need to ensure a sustainable use of soils. This entails preventing further soil degradation and preserving its functions, as well as restoring degraded soils. The 2011 Roadmap to a Resource Efficient Europe states that by 2020, EU policies must take into account their direct and indirect impact on land use.

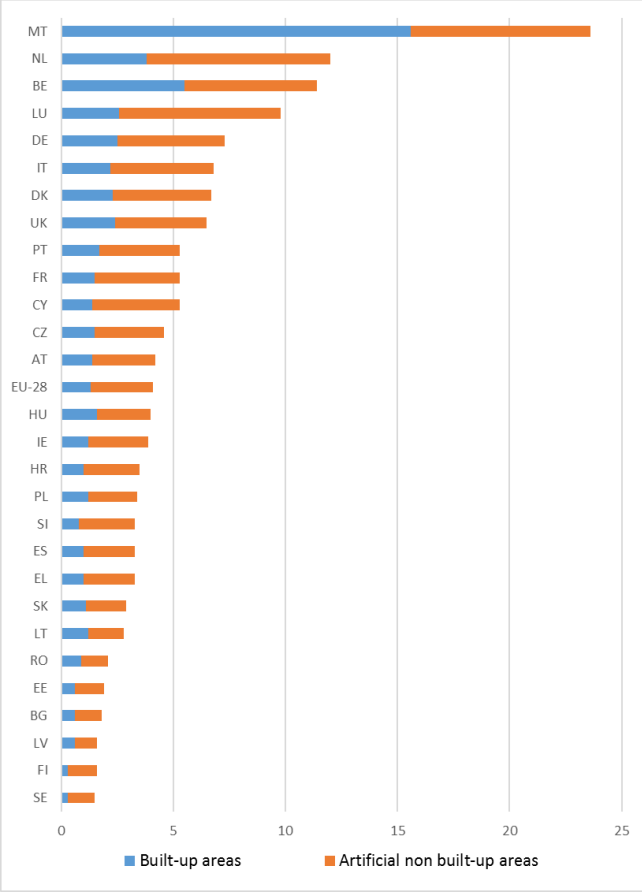
Soil is a finite and extremely fragile resource and it is increasingly degrading in the EU. It is highly unlikely that land taken by urban development and infrastructure will ever be reverted to its natural state. Such land use mostly consumes agricultural land and increases fragmentation of habitats. Soil protection is indirectly addressed by EU policies in areas such as agriculture, water, waste, chemicals, and the prevention of industrial pollution.

The percentage of artificial land[53] in the UK (see Figure 12) can show the relative pressure on nature and biodiversity and the environmental pressure on people living in urbanised areas. A similar measure is population density.

The UK is above the EU average for artificial land coverage (6.5 % vs 4.1 %). The population density is 270.5/km^2, which is also above the EU average of 118[54].

Contamination can severely reduce soil quality and threaten human health or the environment. A recent report of the European Commission[55] estimated that potentially polluting activities have taken or are still taking place on approximately 2.8 million sites in the EU. At EU level, 650 000 of these sites have been registered in national or regional inventories. 65 500 contaminated sites already have been remediated. England has registered 600 sites where potentially polluting activities have taken or are taking place, and already has remediated or applied aftercare measures on 433 sites. Other regions have not reported the progress in the management of contaminated sites and brownfields to the working group of the European Environment Information and Observation Network (EIONET) that is responsible for this matter.

Figure 12: Proportion of artificial land cover, 2015 [56]



Soil erosion by water is a natural process, but this natural process can be aggravated by climate change and human activities such as inappropriate agricultural practices, deforestation, forest fires or construction works. High levels of soil erosion can reduce productivity in agriculture and can have negative and transboundary impacts on biodiversity and ecosystem services. High

[53] Artificial land cover is defined as the total of roofed built-up areas (including buildings and greenhouses), artificial non built-up areas (including sealed area features, such as yards, farmyards, cemeteries, car parking areas etc. and linear features, such as streets, roads, railways, runways, bridges) and other artificial areas (including bridges and viaducts, mobile homes, solar panels, power plants, electrical substations, pipelines, water sewage plants, and open dump sites).
[54] Eurostat, Population density by NUTS 3 region.
[55] Perez Ana Paya, Natalia Rodriguez Eugenio, Status of local soil contamination in Europe: Revision of the indicator "Progress in the management Contaminated Sites in Europe", 2018.
[56] Eurostat, Land covered by artificial surfaces by NUTS 2 regions.

levels of soil erosion can also have negative and transboundary effects on rivers and lakes (due to increased sediment volumes and transport of contaminants). According to the RUSLE2015 model[57], the UK has an average soil loss rate by water of 2.38 tonnes per hectare per year (t ha^{-a} yr^{-y}) compared to the EU mean of 2.46 t ha^{-a} yr^{-y}. This indicates that soil erosion in the UK is in line with the EU average. Note that these figures are the output of an EU level model and can therefore not be considered as locally measured values. The actual rate of soil loss can vary strongly within a Member State depending on local conditions.

Soil organic matter plays an important role in the carbon cycle and in climate change. Soils are the second largest carbon sink in the world after oceans.

Marine protection

EU coastal and marine policy and legislation require that by 2020 the impact of pressures on marine waters be reduced to achieve or maintain good environmental status (GES) and ensure that coastal zones are managed sustainably.

The Marine Strategy Framework Directive (MSFD)[58] aims to achieve good environmental status of the EU's marine waters by 2020. To that end, Member States must develop a marine strategy for their marine waters, and cooperate with the EU countries that share the same marine (sub)region.

For the United Kingdom, the Convention for the protection of the marine environment of the North-East Atlantic (OSPAR Convention) plays an important contribution to achieving the goals of the Directive. The Commission assessed whether the UK's measures were appropriate to reach GES[59]. Although the UK measures address relevant pressures and targets, they do not fully address certain pressures, activities and associated impacts, such as nutrient enrichment from aquaculture and continuous underwater noise. It is also not clear to what extent activities such as marine renewable energies, hydrocarbon extraction dredging, mining etc. are covered by the measures targeting seabed habitats.

In the Western Mediterranean Sea sub-region (Gibraltar), the UK does not report any fishing regulations as it does not report to have a fishing fleet. However, it highlights the extent to which illegal fisheries affect its marine waters. No fisheries management measures for commercial fish and shellfish have been reported to date.

Overall, the UK's programmes of measures partially address the requirements of the MSFD.

2019 priority actions

- Determine the timelines for achieving good environmental status, when these have not been reported.
- Provide more information about its existing measures and establish more measures that have a direct impact on the sources of pressure. It should quantify the expected level of reduction of the sources of pressure as a result of its measures.
- Ensure that the effects and effectiveness of measures are measured through the national monitoring programme.
- Ensure regional cooperation with Member States sharing the same marine (sub)region to address the leading sources of pressure.

[57] Panagos, P., Borrelli, P., Poesen, J., Ballabio, C., Lugato, E., Meusburger, K., Montanarella, L., Alewell, C., The new assessment of soil loss by water erosion in Europe, (2015) Environmental Science and Policy, 54, pp. 438-447.
[58] European Union, Marine Strategy Framework Directive 2008/56/EC.
[59] Commission report assessing Member States' programme of measures under the MSFD (forthcoming publication).

3. Ensuring citizens' health and quality of life

Air quality

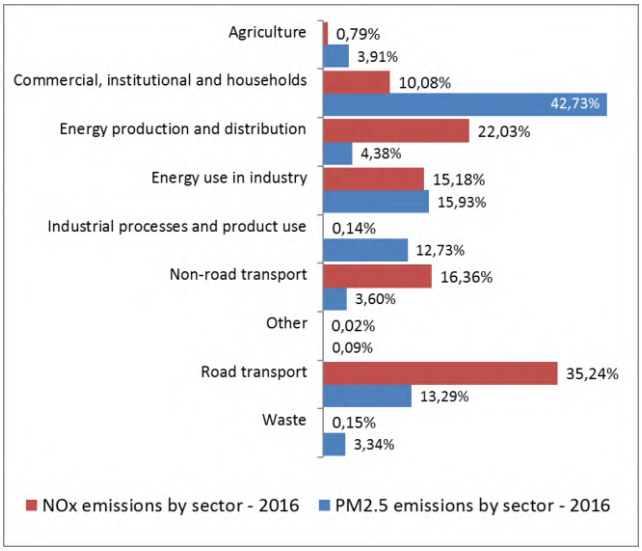
EU clean air policy and legislation require the significant improvement of air quality in the EU, moving the EU closer to the quality recommended by the World Health Organisation. Air pollution and its impacts on human health, ecosystems and biodiversity should be further reduced with the long-term aim of not exceeding critical loads and levels. This requires strengthening efforts to reach full compliance with EU air quality legislation and defining strategic targets and actions beyond 2020.

The EU has developed a comprehensive body of air quality legislation [60], which establishes health-based standards and objectives for a number of air pollutants.

The emissions of several air pollutants have decreased significantly in the United Kingdom [61]. The emission reductions between 1990 and 2014, mentioned in the previous EIR, continued between 2014 and 2016. Emissions of sulphur dioxides (SO2) fell by 44.35 %, emissions of nitrogen oxides (NOx) fell by 12.35 % and emissions of fine particulate matter ($PM_{2.5}$) fell by 2.28 % and emissions of volatile organic compounds (NMVOC) falling by 2.5%. Meanwhile emissions of ammonia (NH_3) have increased by 4.88 % between 2014 and 2016.

Despite the reduction in emissions since 1990, the country needs to make additional efforts to meet its emission reduction commitments (compared with 2005 levels) set by the new National Emissions Ceilings Directive [62] for 2020-2029 and for any year from 2030. The UK Government published a Clean Air Strategy for consultation in May 2018 which sets out additional action towards meeting these emission reduction commitments.[63]

Figure 13: $PM_{2.5}$ and NO_x emissions by sector in the UK[64]



At the same time, air quality in the UK continues to give a cause for severe concern. For 2015, the European Environment Agency estimated that about 31 300 premature deaths were attributable to fine particulate matter[65] concentrations, 590 to ozone[66] concentrations and over 9 600 to nitrogen dioxide [67] concentrations[68].

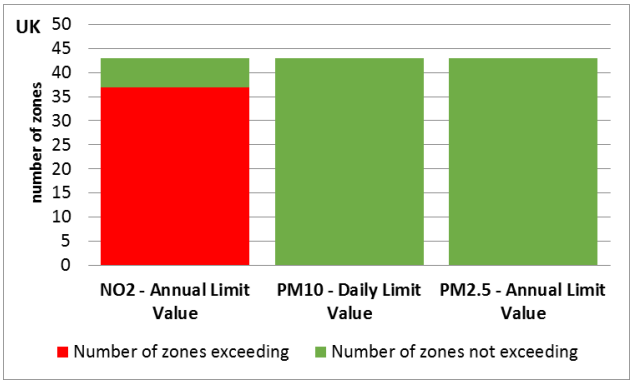
For 2017[69], exceedances related to the annual limit value for nitrogen dioxide (NO_2) in 37 (out of 43) air quality zones (including in London, Glasgow, and Birmingham). Furthermore, the target values regarding benzo(a)pyrene concentrations are not being met in some instances. See Figure 14 for the number of air quality zones exceeding NO_2, $PM_{2.5}$, and PM_{10} levels.

The persistent breaches of air quality standards (for NO_2), which have severe negative effects on health and the environment, are being followed up by the European Commission through infringement procedures in all

[60] European Commission, Air Quality Standards,2016.
[61] See EIONET Central Data Repository and Air pollutant emissions data viewer (NEC Directive).
[62] Directive 2016/2284/EU.
[63] Government of the United Kingdom, Air quality: draft Clean Air Strategy 2018.
[64] 2016 NECD data submitted by Member State to the EEA.
[65] Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many human sources, including combustion.
[66] Low level ozone is produced by photochemical action on pollution.
[67] NOx is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NOx is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO2).
[68] EEA, Air Quality in Europe – 2018 Report, p. 64. Air Quality in Europe – 2017 Report. Please see details in this report as regards the underpinning methodology.
[69] EEA, EIONET Central Data Repository.

Member States concerned, including the UK. The Commission has decided to refer the UK to the European Court of Justice for exceeding NO_2 levels (see COM (2018) 330). The aim is to ensure that adequate measures are put in place to bring all zones into compliance. In July 2017, the UK published the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations setting out measures to achieve compliance in the shortest possible time[70]. A Supplement to this Plan was published on 5th October 2018[71].

Figure 14: Air quality zones exceeding EU air quality standards in 2017[72]



According to a special report from the European Court of Auditors[73], EU action to protect human health from air pollution has not had its expected impact. There is a risk that air pollution is being underestimated in some instances because it may not always be monitored in the right places. Member States are now required to report both real-time and validated air quality data to the Commission[74].

In July 2018, The UK participated in a TAIEX-EIR P2P workshop in Bratislava, with experts from more than 10 EU Member States to exchange knowledge and good practices on reducing emissions from domestic heating.

2019 priority actions

- Take action, in the context of the forthcoming national air pollution control programme (NAPCP), to reduce the main emission sources.
- Accelerate the reduction of nitrogen oxide (NOx) emissions and nitrogen dioxide (NO2) concentrations. This will require, for example, further reducing transport emissions, particularly in urban areas (and may require proportionate and targeted urban vehicle access restrictions).

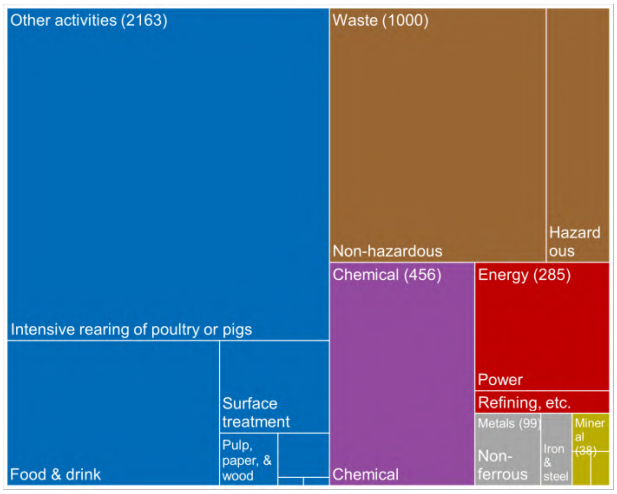
Industrial emissions

The main objectives of EU policy on industrial emissions are to:
(i) protect air, water and soil;
(ii) prevent and manage waste;
(iii) improve energy and resource efficiency; and
(iv) clean up contaminated sites.
To achieve this, the EU takes an integrated approach to the prevention and control of routine and accidental industrial emissions. The cornerstone of the policy is the Industrial Emissions Directive[75] (IED).

The below overview of industrial activities regulated by the IED is based on the 'industrial emissions policy country profiles' project[76].

In the UK, around 4000 industrial installations must have a permit according to the IED. In 2015, the industrial sectors in the UK with the most IED installations were the intensive rearing of poultry or pigs (37 %), non-hazardous waste (19 %) and chemicals (11 %).

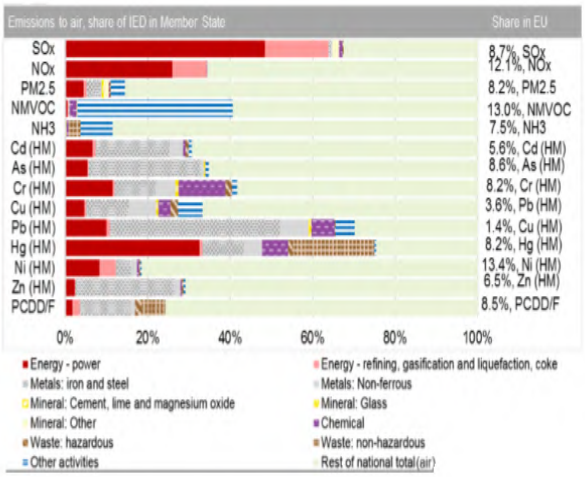
Figure 15: Number of IED industrial installations by sector, UK (2015)[77]



[70] Government of the United Kingdom, Air quality plan for nitrogen dioxide (NO2) in UK.
[71] Government of the United Kingdom, Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations.
[72] EEA, EIONET Central Data Repository. Data reflects the reporting situation as of 26 November 2018.
[73] European Court of Auditors, Special report no 23/2018: Air pollution: Our health still insufficiently protected.
[74] Article 5 of Commission Implementing Decision 2011/850/EU of 12 December 2011 laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality (OJ L 335, 17.12.2011, p. 86) requires Member States to provide Up-To-Date data.
[75] Directive 2010/75/EU covers industrial activities carried out above certain thresholds. It covers energy industry, metal production, mineral and chemical industry and waste management, as well as a wide range of industrial and agricultural sectors (e.g. intensive rearing of pig and poultry, pulp and paper production, painting and cleaning).
[76] European Commission, Industrial emissions policy country profile – UK.
[77] European Commission, Industrial emissions policy country profile – UK.

The sectors identified as contributing the most emissions to air in the UK are: (i) 'energy-power' for sulphur oxides (SOx), nitrogen oxides (NOx) and mercury (Hg); (ii) 'energy refining' for sulphur oxides (SOx); (iii) 'iron and steel production' for cadmium (Cd), arsenic (As), chromium (Cr), lead (Pb), mercury (Hg), zinc (Zn) and polychlorinated dibenzodioxins and polychlorinated dibenzofurans (PCDD/F); (iv) 'other activities' (mostly the intensive rearing of poultry or pigs and surface treatment) for non-methane volatile organic compounds (NMVOCs) and ammonia (NH3); (v) 'chemicals' for chromium (Cr); and (vi) 'waste management' for mercury (Hg). The breakdown is shown in the following graph.

Figure 16: Emissions to air from IED sectors and all other national air emissions, UK (2015)



Regarding water emissions, energy refining and chemicals were identified as having significant environmental burdens for emissions to water.

The enforcement approach under the IED creates strong rights for citizens to have access to relevant information and to participate in the permitting process for IED installations. This empowers NGOs and the general public to ensure that permits are appropriately granted and their conditions respected.

Best available techniques (BAT) reference documents and BAT conclusions are developed through the exchange of information between Member States, industrial associations, NGOs and the Commission. This ensures a good collaboration with stakeholders and a better application of the IED's rules.

Thanks to the national competent authorities' efforts to apply the legally binding BAT conclusions and associated BAT emission levels in environmental permits, pollution has decreased considerably and continuously in the EU.

For example, by applying the recently adopted BAT emission levels for large combustion plants, emissions of sulphur dioxide will be cut on average by between 25 % and 81 %, nitrogen oxide by between 8 % and 56 %, dust by between 31 % and 78 % and mercury by between 19 % and 71 % at EU level. The extent of the reduction depends on the situation in individual plants.

The challenge identified for the UK is to meet the BAT levels in the refining of mineral oil and gas, in car production (surface treatment using organic solvents) and in large combustion plants.

2019 priority actions

- Continue the review of permits to ensure that they comply with the newly adopted BAT conclusions.
- Continue to ensure compliance with BAT conclusions through regulatory control.
- Ensure compliance with the BAT particularly in the refining of mineral oil and gas sectors, in car production (surface treatment using organic solvents) and in large combustion plants.

Noise

The Environmental Noise Directive [78] provides for a common approach to avoiding, preventing and reducing the harmful effects of exposure to environmental noise.

Excessive noise from aircraft, railways and roads is one of the main causes of environmental health-related issues in the EU [79]. Based on a limited set of data [80], environmental noise is estimated to cause at least 1 800 premature deaths per year in the UK and is responsible for around 5 500 hospital admissions. Noise also disturbs the sleep of roughly 2 200 000 people in the UK. The Environmental Noise Directive is being implemented. The noise mapping for the previous reporting round (reference year 2011) is complete as are the action plans (reference year 2013). These instruments, adopted after a public consultation had been carried out, should include the measures to keep noise low or reduce it.

[78] Directive 2002/49/EC.
[79] WHO/JRC, 2011, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephalopoulos, S. (eds), World Health Organisation, Regional Office for Europe, Copenhagen, Denmark.
[80] European Environment Agency, Noise Fact Sheets 2017.

Water quality and management

EU legislation and policy requires that the impact of pressures on transitional, coastal and fresh waters (including surface and ground waters) be significantly reduced. Achieving, maintaining or enhancing a good status of water bodies as defined by the Water Framework Directive will ensure that EU citizens benefit from good quality and safe drinking and bathing water. It will further ensure that the nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.

The existing EU water legislation[81] puts in place a protective framework to ensure high standards for all water bodies in the EU and addresses specific pollution sources (for example, from agriculture, urban areas and industrial activities). It also requires that the projected impacts of climate change are integrated into the corresponding planning instruments e.g. flood risk management plans and river basin management plans, including programme of measures which include the actions that Member States plan to take in order to achieve the environmental objectives.

Water Framework Directive

The United Kingdom has adopted and reported the second generation of River Basin Management Plans under the Water Framework Directive and the European Commission has assessed the status and the development since the adoption of the first River Basin Management Plans, including suggested actions in the EIR report 2017.

The **most significant pressures** on surface water in the United Kingdom are unknown anthropogenic pressure (28%), followed by diffuse agricultural pollution (20%) and physical alteration of channel/bed/riparian area/shore (20%). For groundwater bodies the most significant pressure is diffuse pollution from agriculture followed by diffuse pollution, pressure from mining and alteration of water level or volume.

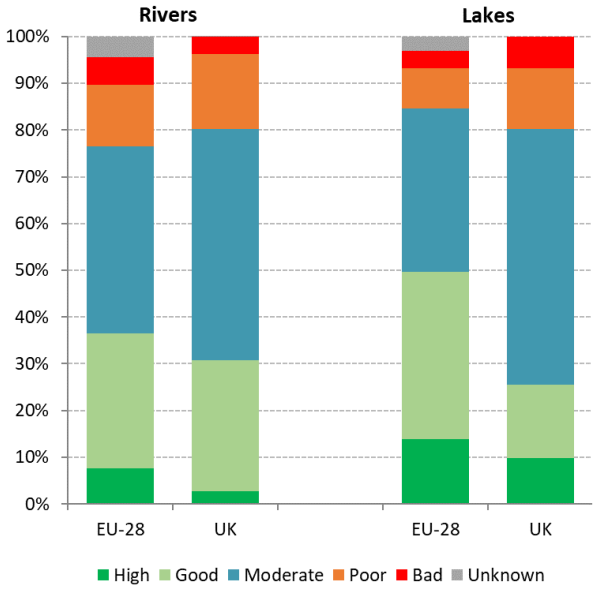
Nutrient pollution was the **most significant impact** on all surface water (34% of surface water bodies), followed by altered habitats due to morphological change (32%) and organic pollution (13%).

Overall there appears to be a small increase in the proportion of surface water bodies included in surveillance monitoring and a decrease in the proportion of surface water bodies included in operational monitoring between the first and the second River Basin Management Plans, regarding the **ecological status in surface water bodies.**

In terms of surveillance **monitoring** only 6 out of 15 River Basin Districts had any coastal water bodies where all required biological quality elements were monitored. For lakes, there were no water bodies where all required biological quality elements were monitored.

The ecological status/potential was less than good in two thirds of surface water bodies as illustrated in figure 17. This shows that the United Kingdom has a long way to go to achieve the good status/potential objectives set down in the Water Framework Directive.

Figure 17: Ecological status or potential of surface water bodies in the United Kingdom[82].



There has been a significant reduction in the number of sites and water bodies monitored in operational monitoring programmes for Priority Substances in River Basin Districts in England and Wales. This is explained by the risk-based approach taken by the Environment Agency in England and Wales to identify which water bodies require monitoring. Water bodies at lower risk were identified as being at good chemical status, with low confidence without further monitoring. Based on this approach there was a large increase in the proportion of surface water bodies classified as good for the second River Basin Management Plans compared to the first.

The monitoring situation of **quantitative status of groundwater bodies** has slightly improved. The number

[81] This includes the Bathing Waters Directive (2006/7/EC), the Urban Waste Water Treatment Directive (91/271/EEC) (on discharges of municipal and some industrial wastewaters), the Drinking Water Directive (98/83/EC) (on potable water quality), the Water Framework Directive (2000/60/EC) (on water resources management), the Nitrates Directive (91/676/EEC) and the Floods Directive (2007/60/EC).

[82] EEA, WISE dashboard.

of monitored groundwater bodies increased and the total number of groundwater bodies failing good quantitative status decreased significantly (20%). However, in four river basin districts (Anglian, Neagh Bann, North Western and North Eastern) the number groundwater bodies in poor status increased.

Most significant pressures are identified in the River Basin Management Plans and addressed by measures (Key type of measures). Some measures are completed since the first Programme of Measures but obstacles such as lack of finance (which was identified for the majority of River Basin Districts) and lack of a mechanism for implementation as well as measures not being cost-effective have occurred in relation to the implementation of the first Programme of Measures.

The amount and quality of readily available information has in general improved between the first and the second River Basin Management Plans. There seems to be a broader range of River Basin Specific Pollutants reported, even though measures may not be in place to address the failures they cause.

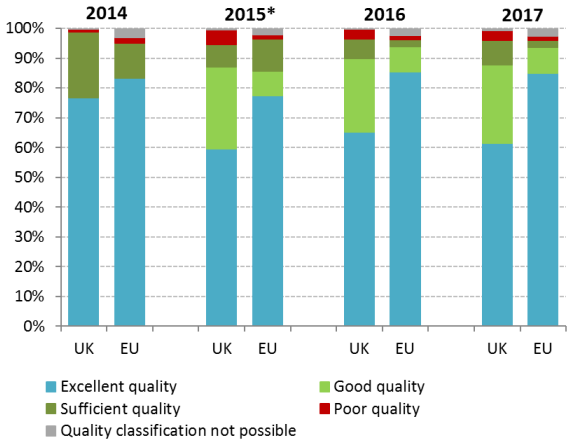
Nitrates Directive

A number of shortcomings have been identified on **nitrates** for which the UK needs to take follow-up action. Considering the slow rate of improvement of its water quality, the Commission has addressed some questions to the UK on its application of the Nitrates Directive and the suitability of the monitoring programmes to assess the effectiveness of action programmes. The UK has responded and continues to work with the Commission to complete their investigation. The UK has also implemented new legislation in England to help tackle diffuse pollution from agriculture. The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018[83] came into force on 2 April 2018 and are designed to complement and supplement the UK's implementation of Article 11(3)(h) of the Water Framework Directive, and the Nitrates Directive. The new rules apply to all agricultural land in England and cover two main activities in order to reduce and prevent diffuse water pollution from agricultural sources: the application and storage of fertilisers; and the management of soil and livestock. The Commission is still waiting for additional action to be taken in Wales.

Bathing Water Directive

Figure 18 shows that in 2017, out of the UK's 634 **bathing waters**, 61.4 % were of excellent quality, 26.3 % of good quality and 8.4 % of sufficient quality (compared to 65.1 %, 24.9 % and 6.5 % respectively in 2016). However, 21 bathing waters were of poor quality[84]. Detailed information on the UK's bathing waters is available on a national web portal[85] and on an interactive map viewer designed and hosted by the European Environment Agency[86].

Figure 18 Bathing water quality 2014–2017[87]



**The category 'good' was introduced in the 2015 bathing water report*

Urban Waste Water Treatment Directive

The UK has a fairly high level of compliance with the **Urban Waste Water Treatment Directive**, even though a few areas of non-compliance remain. All (100 %) waste water is collected in the UK and 98.6 % undergoes secondary treatment with 92.8 % undergoing more stringent treatment[88]. Similar to what was reported in the 2017 EIR, the UK is still implementing a Court ruling concerning London (C-301/10, 18 October 2012) by building a tunnel under the Thames. The UK has also been addressing storm water overflows, which are increasingly being addressed by innovative solutions (e.g. sustainable urban drainage systems). The Commission is monitoring the UK's progress on these issues. Plans are in place to improve the management of storm water overflows through increasing the number of overflows covered by Event Duration Monitoring (EDM). EDM data is being used to drive improvements in performance.

[83] UK, The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018.

[84] European Environment Agency, 2017. European bathing water quality in 2016 , p. 17.

[85] UK Environment Agency, bathing water quality portal (England). bathing water quality (Northern Ireland). SEPA, bathing water quality portal (Scotland), Environmental Agency Gibraltar, bathing water quality (Gibraltar), Natural Resources Wales, bathing water quality (Wales).

[86] EEA, State of bathing waters.

[87] European Environment Agency, 2018. European bathing water quality in 2017, p. 21.

[88] European Commission, Ninth Report on the Implementation Status and the Programmes for Implementation of the Urban Waste Water Treatment Directive (COM(2017)749) and Commission Staff Working Document accompanying the report (SWD(2017)445).

Floods Directive

The Floods Directive established a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences associated with significant floods.

The United Kingdom has adopted and reported its first Flood Risk Management Plans under the Directive and the European Commission conducted an assessment.

The Commission's assessment found that good efforts were made with positive results in setting objectives and devising measures focusing on prevention, protection and preparedness. The assessment also showed that, as was the case for other Member States, the United Kingdom's Flood Risk Management Plans include measures that are not clearly prioritised and not linked to the objectives and a baseline to assess the progress achieved in implementing the measures (by extension the objectives too). In addition, there is scope for identifying specific sources of funding for the measures to achieve the objectives set

2019 priority actions

- Ensure that, in the preparation of the next RBMPs, the public is duly consulted taking into account these document's purpose and complexity.
- Address the large uncertainties reported in relation to the assessment of the status, the pressures and the effect of potential measures for groundwater bodies.
- Scale up nitrates prevention and reduction measures to meet water quality objectives and improve control measures. Include eutrophication caused by phosphorus when designating nitrate vulnerable zones.
- Take steps to identify specific sources of funding in the Floods Risk Management Plans for the measures to achieve the objectives set.

Chemicals

The EU seeks to ensure that by 2020 chemicals are produced and used in ways that minimise any significant adverse effects on human health and the environment. An EU strategy for a non-toxic environment that is conducive to innovation and to developing sustainable substitutes, including non-chemical options, is being prepared.

The EU's chemicals legislation [89] provides baseline protection for human health and the environment. It also ensures stability and predictability for businesses operating within the internal market.

In 2016, the European Chemicals Agency (ECHA) published a report on REACH and the CLP Regulation[90] that showed that enforcement activities are still evolving. Member States cooperate closely within the Forum for Exchange of Information on Enforcement [91]. This cooperation has shown that there is scope to increase the effectiveness of enforcement activities, particularly for registration obligations and safety data sheets where the level of non-compliance is still relatively high.

While progress has been made, there is room to further improve and harmonise enforcement activities across the EU, including controls on imported goods. Enforcement remains weak in some Member States, particularly for controls on imports and supply chain obligations. The enforcement architecture is complex in most EU countries and enforcement projects reveal differences in compliance between Member States.

A 2015 Commission study already emphasised the importance of harmonised market surveillance and enforcement when implementing REACH at Member State level, deeming it to be a critical success factor in the operation of a harmonised single market[92].

In March 2018, the Commission published an evaluation of REACH [93]. The evaluation concludes that REACH delivers on its objectives, but that progress made is slower than anticipated. In addition, the registration dossiers often are incomplete. The evaluation underlines the need to enhance enforcement by all actors, including registrants, downstream users and in particular for importers, to ensure a level playing field, meet the objectives of REACH and ensure consistency with the actions envisaged to improve environmental compliance and governance. Consistent reporting of Member State enforcement activities was considered important in that respect.

The UK's REACH enforcement regime was implemented through the REACH enforcement regulations in 2008[94]. These regulations give a number of enforcing authorities

[89] Principally for chemicals: REACH (OJ L 396, 30.12.2006, p.1.); for Classification, Labelling and Packaging, the CLP Regulation (: OJ L 252, 31.12.2006, p.1.), together with legislation on biocidal products and plant protection products.
[90] European Chemicals Agency, Report on the Operation of REACH and CLP 2016.
[91] ECHA, on the basis of the projects REF-1, REF-2 and REF-3.
[92] European Commission. (2015). Monitoring the Impacts of REACH on Innovation, Competitiveness and SMEs. Brussels: European Commission.
[93] European Commission, COM(2018) 116.
[94] UK, REACH Enforcement Regulations 2008.

the responsibility to enforce REACH and grant them the necessary powers. They also oblige enforcing authorities to cooperate and share information with other bodies that enforce REACH, and they set down the offences and penalties for any breaches[95].

Making cities more sustainable

EU policy on the urban environment encourages cities to put policies in place for sustainable urban planning and design. These should include innovative approaches to urban public transport and mobility, sustainable buildings, energy efficiency and urban biodiversity conservation.

Europe can be seen as a union of cities and towns. Around 75 % of the EU population live in urban areas[96] and this figure is projected to rise to just over 80% by 2050[97]. Urban areas pose particular challenges for the environment and human health, but they also provide opportunities for using resources more efficiently. The EU encourages municipalities to become greener through initiatives such as the Green Capital Award[98], the Green Leaf Award[99] and the Green City Tool[100].

Financing greener cities

The UK has allocated EUR 323 million or 5.5 % of its ERDF allocation (excluding technical assistance) to sustainable urban development[101]. This financing approach will only be taken in England, where it will cover London and other city regions with a population of more than 600 000 (Greater Birmingham and Solihull, Bristol, Leeds, Liverpool, Greater Manchester, Newcastle, Nottingham and Sheffield).

The UK participates in the Urban Development Network (UDN)[102], which includes more than 500 cities across the EU responsible for carrying out integrated measures based on sustainable urban development strategies financed by ERDF in 2014-2020.

Of the UDN's initiatives, the ERDF supports urban innovative actions to test new and unproven solutions for urban challenges. The urban innovation actions have a total ERDF budget of EUR 372 million for 2014-2020[103]. Participating cities in the UK are Birmingham with the USE-IT! project (Unlocking Social and Economic Innovation) and Coventry, which are trying to address problems related to migration.

Participation in EU urban initiatives and networks

UK municipalities are generally involved in EU initiatives on environmental protection and climate change.

In 2015, Bristol became the first UK city to win the European Green Capital Award, thanks to its investment plans for transport and energy.

The UK is involved in 14 of the 18 thematic networks under the URBACT initiative to support sustainable urban development. For the URBACT III programme, Westminster took the lead in the 'electric vehicles in urban Europe results' network to develop integrated, sustainable strategies and dynamic leadership techniques for cities to promote the use of electric vehicles. The UK also leads the URBACT 'Freight Tails' network for innovative logistics and Manchester is lead partner on two projects. The aim of CSI Europe Results is to support 'sustainable investment in cities', and the URBACT SmartImpact network looks at local impacts from smart city planning.

The 'Urban agenda for the EU' is an integrated and coordinated approach to deal with the urban dimension of EU and national policies and legislation. By focusing on concrete priority themes within dedicated partnerships, the Urban agenda seeks to improve the quality of life in urban areas. The City of London coordinates the partnership on energy transition and part of the partnership on clean air. The Scottish Cities Alliance is a member of the partnership on housing.

Several Horizon 2020 network projects have also contributed to the sustainability of UK cities. *CIVITAS* includes 23 UK municipalities that work together to achieve cleaner and better transport in cities[104]. Bristol is part of the 'Clair City' project, a citizen-led initiative to reduce air pollution in cities[105]. Edinburgh was one of the test cities for the 'Social Car' project[106], a research and innovation project that seeks to incorporate carpooling into existing mobility systems. Its goal is to design, develop, test and roll out a service that simplifies the travel experience of citizens in urban and peri-urban areas.

36 UK cities are also involved in the EU Covenant of Mayors initiative, coordinated by the Energy Saving Trust. As of May 2018, nine cities have already implemented their action plans and are monitoring the results. Another 25 cities have at least presented their climate action plan

[95] ECHA, The UK enforcement regime for REACH.
[96] European Commission, Urban Europe, 2016.
[97] European Commission, Eurostat, Urban Europe, 2016, p.9.
[98] European Commission, the Green Capital Award.
[99] European Commission, the Green Leaf Award.
[100] European Commission, the Green City Tool.
[101] European Commission, Partnership agreement with the United Kingdom - 2014-20.
[102] European Commission, The Urban Development Network.
[103] European Commission, Urban Innovative Actions.
[104] European Commission, Horizon 2020 Civitas Project.
[105] European Commission, Horizon 2020 Claircity Project.
[106] EU project, Social car.

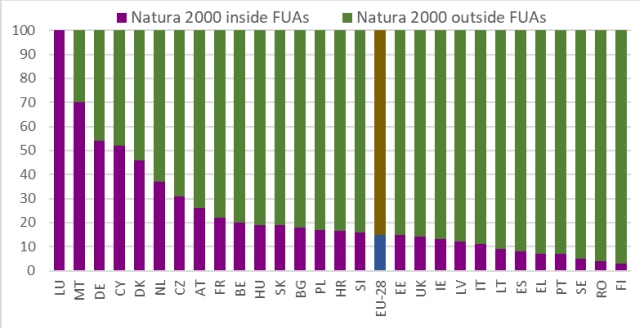
and the commitments they aim to meet by 2020 or 2030[107].

Such urban initiatives and networks that contribute to a better urban environment are welcome given that in 2017, 13.7 % of the UK population living in cities said that their neighbourhood was affected by pollution, grime or other environmental problems. This is an increase since 2016 (10.8 %) and 2015 (10.4 %). However, these figures are significantly lower than the EU-28 average (20 % in 2017, 18.9 % in 2016 and 19.2 % in 2015)[108].

Nature and cities

14 % of the UK's Natura 2000 network is in functional urban areas[109], close to the EU average of 15 % (see Figure 19).

Figure 19: Proportion of Natura 2000 network in Functional Urban Areas (FUA) [110]



Many environmental policy measures and practical actions contribute indirectly to green infrastructure goals in the UK[111].

Urban sprawl

The UK had a high weighted urban proliferation of 3.18 UPU/m2 in 2009 compared to the European average (EU-28+EEA-4) of 1.64 UPU/m^2 [112], with an increase of 3.6 % from 2006 to 2009[113].

Traffic congestion and urban mobility

The total number of road vehicles in the UK has increased to 30.6 million in 2016. The average number of hours per year spent in traffic jams rose from 40.25 hours in 2014 to 45.09 in 2016 — the highest in the EU[114].

UK cities generally have high levels of traffic congestion. Belfast is the fourth most congested city in Europe, while Edinburgh and London are also in the top 10. In total, 20 UK cities have congestion levels above 25 %.

Air quality, especially the extent to which it relates to traffic congestion, is one of the main challenges for the UK. It requires priority action at local level.

[107] Covenant of Mayors for Climate and Energy, Country signatories.
[108] European Commission, Eurostat, Pollution, grime or other environmental problems by degree of urbanisation.
[109] European Commission, Definition of Functional Urban Areas.
[110] European Commission, the 7th Report on Economic, Social and Territorial Cohesion, 2017, p. 121.
[111] Biodibversity Information System for Europe: United Kingdom.
[112] Urban Permeation Units measure the size of the built-up area as well as its degree of dispersion throughout the region.
[113] EEA, Urban Sprawl in Europe, Annex I, 2014, pp.4-5.
[114] European Commission, Hours spent in road congestion annually.

Part II: Enabling framework: Implementation tools

4. Green taxation, green public procurement, environmental funding and investments

Green taxation and environmentally harmful subsidies

Financial incentives, taxation and other economic instruments are effective and efficient ways to meet environmental policy objectives. The circular economy action plan encourages their use. Environmentally harmful subsidies are monitored in the context of the European Semester and the energy union governance process.

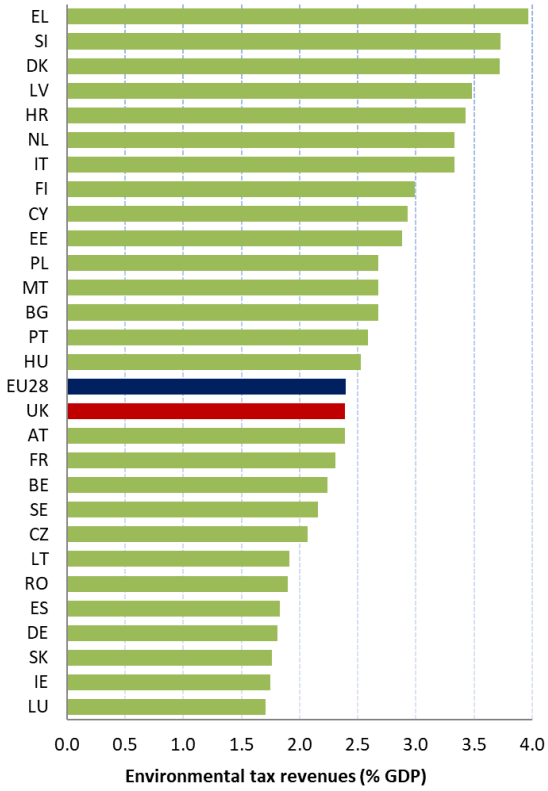
The UK's revenue from environment-related taxes remains in line with the EU average. Environmental taxes accounted for 2.39 % of Gross Domestic Product in 2017 (EU-28 average 2.4 %) (see Figure 20) and energy taxes for 1.78 % of GDP (EU average 1.84 %) [115]. In the same year, environmental tax revenues were 6.75 % of total revenues from taxes and social security contributions (EU average 5.97 %).

The UK's tax structure results in a lower proportion of revenues from labour tax in total tax revenues than the EU average. The UK's labour tax revenues were 38.9 % in 2016, while the implicit tax burden on labour was 25.7 %[116]. Consumption taxes remained relatively low (32.6 %, 17th in EU-28), showing that there is some potential for shifting taxes from labour to consumption, particularly to environmental taxes.

There are several examples of sound fiscal measures for the environment. One is the landfill tax, which has had a significant positive effect on the quantity of waste sent to landfill (a 75 % decrease in 14 years)[117]. Another example is the aggregates levy to reduce the negative environmental impacts of aggregate extraction and to serve as an incentive for recycling[118].

Fossil fuel subsidies decreased in the past decade and financial aid for coal has almost disappeared. Tax exemptions have increased in 2016 and taken the form of: (i) a reduced level of VAT for domestic fuel and power; (ii) tied oils scheme; and (iii) exemptions from the climate change levy for metallurgical and mineralogical processes and for coal suppliers. These exemptions added up to GBP 5.7 billion in 2016[119].

Figure 20: Environmental tax revenues as % of GDP (2017)[120]



The UK is the first EU country that has managed to reduce the 'diesel differential' (difference in the price of diesel versus petrol) to zero[121]. Excise tax rates levied on petrol and diesel in 2016 remained constant in comparison with those in 2015 (GBP 0.58 per litre for petrol and GBP 0.58 for diesel)[122].

The use of alternative fuels in new passenger cars sold in the UK has considerably increased over the past few years. The share of new passenger cars using alternative fuels was 10 times higher in 2016 than in 2013 and the

[115] Eurostat, Environmental tax revenues, 2018.
[116] European Commission, Taxation Trends Report, 2017.
[117] Institute for European Environmental Policy, Case Studies on Environmental Fiscal Reform, Landfill tax in UK.
[118] Institute for European Environmental Policy, Case Studies on Environmental Fiscal Reform, Aggregates levy in UK.
[119] OECD, Inventory of Support Measures for Fossil Fuels, 2018.
[120] Eurostat, Environmental tax revenues, 2018.
[121] European Environment Agency 2017, Environmental taxation and EU environmental policies, p.27.
[122] European Commission, Taxes in Europe Database, 2018.

total number of new passenger cars using alternative fuels almost quadrupled between 2011 and 2015[123].

Favourable tax treatment for company cars is not a cause for concern in the UK[124] where the individual's company car tax liability is set according to the CO2 emissions rating of the car and the type of fuel it uses[125]. Some relevant fiscal measures have been introduced for company cars in 2018, for example, allowances for cars according to their CO2 emissions[126].

CO2-based motor vehicle taxes are in place in the UK. Vehicle registration tax is based on emissions, as is the annual circulation tax. Alternative fuel cars receive a discount on the 'paid rates' of tax[127]. Incentives to encourage people to buy cars with lower CO2 emissions were put in place in 2016. These were linked to annual circulation taxes and subsidies, road tolls, congestion or low emission zone charges and also to buying cleaner vehicles. There are some incentives connected to the preferential use of road infrastructures[128]. Emissions of new vehicles bought in the UK are still higher than the EU average, with CO2 emissions of 120.1 grams per kilometre (EU average 118 grams in 2016)[129].

Green public procurement

The EU green public procurement policies encourage Member States to take further steps to apply green procurement criteria to at least 50 % of public tenders. The European Commission is helping to increase the use of public procurement as a strategic tool to support environmental protection.

The purchasing power of public procurement amounts to around EUR 1.8 trillion in the EU (approximately 14% of GDP). A substantial proportion of this money goes to sectors with a high environmental impact such as construction or transport. Therefore, green public procurement (GPP) can help to significantly lower the negative impact of public spending on the environment and can help support sustainable innovative businesses. The Commission has proposed EU GPP criteria[130].

The UK is one of the leaders on GPP. The 'greening government' commitments set out the overall policy for central government on greening operations including procurement for central government and related agencies. There is also a local government sustainable procurement strategy and strategies for the Scottish government, the Welsh government and the government for Northern Ireland.

The 'greening government' commitments are political and administrative commitments, but not a legal requirement. Where centralised contracts are developed, it is mandatory for departments to use them.

Currently, criteria are set for 12 major products groups: construction, building products, cleaning products, electrical goods, food and catering, furniture, horticulture, office ICT, paper, textiles, transport, and water using products. In total, they cover around 60 products, and include criteria sets at two levels — `mandatory minimum' and `voluntary best practice'. The GPP targets are embedded in departmental and centralised procurement contracts through 'government buying standards'. All central government departments and their related organisations must ensure that they meet these mandatory standards.

Environmental funding and investments

European Structural and Investment Fund (ESIF) rules oblige Member States to promote environment and climate in their funding strategies and programmes for economic, social and territorial cohesion, rural development and maritime policy.

Achieving sustainability involves mobilising public and private financing sources[131]. Use of the European Structural and Investment Funds (ESIFs)[132] is essential if countries are to achieve their environmental goals and integrate these into other policy areas. Other instruments such as Horizon 2020, the LIFE programme[133]

[123] European Commission, Transport in the European Union Current Trends and Issues, 2018, pp.27-28.
[124] European Commission, Taxation of commercial cars in Belgium, 2017, p.3.
[125] ACEA, CO_2 based motor vehicle taxes in Europe.
[126] FleetEurope, Major changes to company car taxation in Europe.
[127] ACEA, CO_2 based motor vehicle taxes in Europe.
[128] European Environmental Agency, Appropriate taxes and incentives do affect purchases of new cars, 18 May 2018.
[129] European Environment Agency, Average CO2 emissions from new passenger cars sold in EU-28 Member States plus Norway, Iceland and Switzerland in 2016 .

[130] In the Communication 'Public procurement for a better environment' (COM (2008) 400) the Commission recommended the creation of a process for setting common GPP criteria. The basic concept of GPP relies on having clear, verifiable, justifiable and ambitious environmental criteria for products and services, based on a life-cycle approach and scientific evidence base.
[131] See, for example, Action plan on financing sustainable growth (COM(2018) 97).
[132] i.e. the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). The ERDF, the CF and the ESF are referred to as the 'cohesion policy funds'.
[133] European Commission, LIFE programme.

and the European Fund for Strategic Investments (EFSI)[134] may also support the implementation and spread of good practices.

According to the 2017 Special Eurobarometer on attitudes of EU citizens towards the environment, the level of support of British people for greater EU investment in environmental protection is the lowest in the EU (78 % vs the EU-28 average of 85 %).

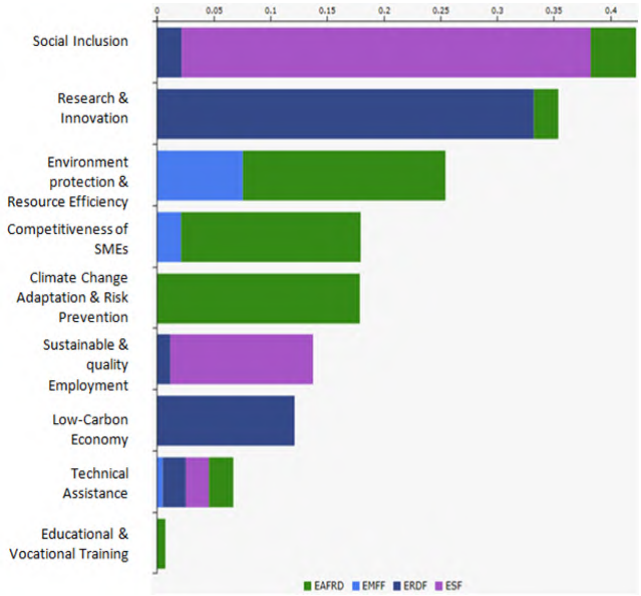
European Structural and Investment Funds 2014-2020

Through 17 national and regional programmes, the UK has been allocated EUR 16.44 billion from ESIF funds for 2014-2020. This means that with its national contribution of EUR 10.24 billion, the UK has a total budget of EUR 26.69 billion to invest in various areas, such as SME support, sustainable employment, the low-carbon economy, sustainable land management in agriculture and forestry, energy efficiency, active inclusion and education and training.

Cohesion policy

The UK receives around EUR 11.8 billion from EU sources in total cohesion policy funding for 2014-2020, including EUR 866 million for European Territorial Cooperation and EUR 4.9 billion from the ESF. It manages 16 Operational Programmes, out of which twelve are funded under the Investment for Jobs and Growth goal (ERDF and ESF) and four are funded under the European Territorial Cooperation goal (ERDF).

Figure 21: ESIF 2014-2020 – EU allocation by theme, UK (EUR billion) [135]



[134] European Investment Bank, European Fund for Strategic Investments, 2016.

[135] European Commission, European Structural and Investment Funds Data By Country.

EU funds are a key asset for protecting the environment in the UK[136]. One of the Commission's investment priorities for the UK in 2014-2020 is to preserve and protect the environment and promote resource efficiency. To this end, ESIF funds for the UK focus on improving the condition, extent and resilience of sites that are important for nature conservation and for providing ecosystem services. The aim is to get the best possible societal and economic benefits (via green infrastructure) and help businesses to improve their resource efficiency and reduce waste to reduce pressure on the environment[137].

Innovation and the low-carbon economy are key areas to consider when estimating environmental spending. The ERDF allocates EUR 1.32 billion to the low-carbon economy as well as EUR 86 million to climate adaptation and EUR 143 million to environmental measures. In addition, around 5.5 % of the ERDF budget is used for sustainable urban development.

Rural development

In the UK, rural development policy is implemented through four separate regional development programmes (RDPs) (for England, Northern Ireland, Scotland and Wales). The management of rural development is a devolved area of policy. Rural Development is incorporated in the UK Partnership Agreement which sets a framework for how the UK plans and prioritises European Structural and Investment Funds from 2014 to 2020. Each devolved administration have a National Rural Network, these networks meet regularly and form a UK NRN[138].

The UK's four RDPs outline the country-level priorities for 2014-2020 and how the available funding comprised of: (i) EUR 7.191 billion from the EU budget which includes EUR 2.317 billion transferred from the UK envelope for CAP direct payments; (ii) EUR 1.353 billion of national co-funding; and (iii) EUR 320 million of national funding top-ups[139], will be used.

The latest financial data available (for 2007-2013) show that the absorption rate of rural development funds in the UK was 97.9 %, close to the EU average of 97.3 %[140].

[136] 'The objectives of the ESI Funds shall be pursued in line with the principle of sustainable development and with the Union's promotion of the aim of preserving, protecting and improving the quality of the environment, as set out in Article 11 and Article 191(1) TFEU, taking into account the polluter pays principle' Article 8, Reg. (EU) No 1303/2013.

[137] Government of the United Kingdom, International treaty, European Structural and Investment Funds: UK partnership agreement, 2014 to 2020

[138] Government of the United Kingdom , Rural Development Programme for England

[139] European Commission, Rural development 2014-2020: Country files

[140] COM(2017) 0554.

The respective RDPs outline the four countries' priorities for using over EUR 9 billion EAFRD funds available for 2014-2020. Of the available funds, 16 % will be allocated to AECMs, more than 6 % to organic farming, 0.5 % to Natura 2000 areas and water framework payments and 16 % to ANCs.

On integrating environmental concerns into the CAP, the two key areas are: (i) to use the EAFRD to pay for environmental land management and other environmental measures; and (ii) to ensure that the first pillar of the CAP is implemented effectively for cross-compliance and first pillar 'greening'.

European Maritime and Fisheries Fund

The UK receives EUR 243 million in co-financing for the fisheries and maritime sector[141]. This has helped finance initiatives that benefit the environment, such as projects supporting innovation in the aquaculture sector to help improve the sector's environmental impact. EUR 19 million are spent on creating environmentally sustainable, resource-efficient, innovative aquacultures.

The Connecting Europe Facility

The Connecting Europe Facility (CEF) is a key EU funding instrument developed specifically to direct investment into European transport, energy and digital infrastructures. It aims to address identified missing links and bottlenecks and promote sustainability.

By the end of 2017, the UK had signed agreements for 48 projects amounting to EUR 348 million (GBP 305 million) under the CEF[142].

Horizon 2020

The United Kingdom has benefited from Horizon 2020 funding since the programme started in 2014. As of January 2019, 2 428 participants have been granted a maximum amount of EUR 966 million for projects from the Societal Challenges work programmes dealing with environmental issues[143] [144].

In addition to the abovementioned work programmes, climate and biodiversity expenditure is present across the entire Horizon 2020. In the United Kingdom, projects accepted for funding in all Horizon 2020 working programmes until December 2018 included EUR 1 billion destined to climate action (19.9 % of the total Horizon 2020 contribution to the country) and EUR 165 million for biodiversity-related actions (3.2 % of the Horizon 2020 contribution to the country)[145].

Certain Horizon 2020 projects aim to improve the environment. Projects in the UK, or with British participation, include: (i) the FAIRWAY[146] study that looks at agricultural practices for the use of pesticides and nitrogen to address major environmental and health challenge; and (ii) the ECO-COMPASS project [147] to develop eco-friendly bio-based materials for aircraft.

LIFE programme

Since its launch in 1992, the LIFE programme has co-financed a total of 244 projects in the UK. Of these, 162 have focused on environmental innovation, 68 on nature conservation and biodiversity and eight on information and communication. Four were operating grants for NGOs. An integrated project and a preparatory project have also been co-funded by the EU since 2014. These projects cost a total of EUR 570 million, of which the EU contributed EUR 262 million.

To date, LIFE's environment and resource efficiency strand has co-financed 162 UK projects costing a total of EUR 308 million, of which the EU provided EUR 123 million. LIFE's nature and biodiversity component has co-financed 68 UK projects at a total of EUR 221 million, of which the EU contributed EUR 118 million.

For 2014-2017, the EU has allocated EUR 82 million to British projects [148]. The UK's largest LIFE grant was awarded to 'MoorLIFE2020'[149], with a total budget of EUR 16 million. It aims to conserve and protect the priority active-blanket-bog habitat in the South Pennine

[141] European Commission, UK EMFF Fact Sheet
[142] UK European Semester Country Report 2018.
[143] European Commission own calculations based on CORDA (COmmon Research DAta Warehouse). A maximum grant amount is the maximum grant amount decided by the Commission. It normally corresponds to the requested grant, but it may be lower.
[144] i.e. (ii) Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy; (iii) Secure, clean and efficient energy; (iv) Smart, green and integrated transport; and (v) Climate action, environment, resource efficiency and raw materials.
[145] European Commission own calculations based on CORDA (COmmon Research DAta Warehouse).
[146] EU funded FAIRWAY project.
[147] EU project ECO-COMPASS.
[148] Commission services based on data provided by EASME.
[149] European Commission, MoorLIFE2020.

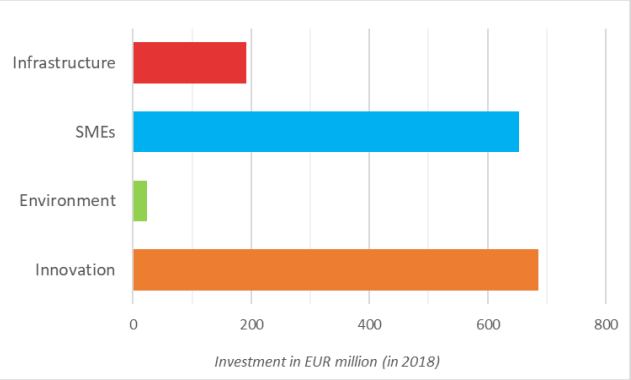
Moors' Natura 2000 site and the ecosystem services it provides. It will protect the integrity of around 9 500 ha of the target habitat.

Completed LIFE nature projects have put in place protective measures for habitats, coastlines, estuaries and rivers (e.g. Irfon) and for species conservation and restoration (such as island seabirds, Atlantic salmon, capercaillie, the freshwater mussel and the great bustard). Two projects produced strategic plans to manage and restore all SPAs and SACs in England and Wales.

European Investment Bank

In 2018 alone, the EIB group (the European Investment Bank and the European Investment Fund) invested EUR 1.55 billion in the UK economy[150]. Of this, 1.5 % went to environmental projects, 12.3 % was invested in infrastructure, 44 % in innovation and 42 % in British SMEs. Over the past 5 years (2011-2015) the EIB has invested EUR 29.1 billion in the British economy, of which 25 % was for waste, sewage and urban projects.

Figure 22: EIB loans to the UK in 2018[151]



European Fund for Strategic Investments

Operations approved in the UK under the European Fund for Strategic Investments (EFSI) represent a total financing volume of EUR 2.3 billion as of January 2019. This is expected to trigger EUR 21 billion in investments[152].

The *Calvin Smartmeter framework facility* supports the roll-out of smart gas and electricity meters for a number of energy suppliers in Great Britain. The EUR 52 million of EFSI financing is expected to trigger a total investment of about EUR 2.1 billion.

National environmental financing

The UK spent EUR 17.6 billion on environmental protection in 2016, a 13 % decrease from 2015[153]. 77.8 % of these payments were allocated to waste management activities (the annual average percentage of environmental spending allocated to waste management in the EU is 49.7 %). EUR 145.2 million was allocated to reducing pollution. 4 % of environmental spending was allocated to protecting biodiversity and the landscape (EUR 702.9 million)[154]. Between 2012 and 2016, general government funding for environmental protection was EUR 89.5 billion[155].

A wide range of projects have received national or regional funding for green investment aims. For example:

- The Big Tree Plant is a funding scheme by the Forestry Commission, which ran from 2011 to 2015. The scheme was managed by Groundwork London. It provided up to GBP 4 million in grants to plant at least 1 million new trees in urban areas.
- Under the 2015 call for infrastructure innovation projects, NERC provided GBP 1.2 million in funding for projects that improve green infrastructure in urban areas.
- In Northern Ireland, the Department for Infrastructure has created a small grants programme to help Councils develop 'greenway' schemes. The Big Lottery Fund, Belfast City Council and the Department for Social Development funded the GBP 40 million 'Connswater Community Greenway project'.
- In 2012, following a national competition, funding of GBP 7.5 million was awarded to 12 new nature improvement areas in England. This generated significant additional investment from other sources.
- In London, the Big Green Fund put GBP 3 million towards creating high quality open spaces in 11 areas. The Mayor, Sadiq Khan, allocated grants of GBP 750 000 for planting trees and woodlands in London. The Great Outdoors programme was financed using regeneration funds. It received further support from Housing Zones, Pocket Parks, Big Green Fund, Help a London Park, the Forestry Commission's RE:LEAF community grant scheme which provided grants of GBP 2 000 to GBP 10 000 to projects promoting tree and woodland projects, Capital Clean-Up and the Mayor's Air Quality Fund.
- Between 2012 and 2015, the Department for Environment, Food and Rural Affairs (DEFRA) commissioned a series of payments for ecosystem

[150] European Investment Bank: The European Investment Bank in the United Kingdom.
[151] EIB, The UK and the EIB, 2018.
[152] European Commission, UK EFSI factsheet.
[153] Eurostat, General Government Expenditure by function, 2018.
[154] No data is available on the funds used for waste water management.
[155] Eurostat, General Government Expenditure by function, 2018.

services pilot projects to test the practical application of the concept in new contexts.

– Several water companies have invested in green infrastructure. For example, the 'Upstream Thinking' management scheme by South West Water and EnTrade, which is an online trading platform that enables farmers to bid for Wessex Water funding for cover crops to reduce nutrient leaching[156].

As it has been mentioned in the report, one of the challenges for the United Kingdom is to ensure that environmental financing remains at an adequate level. Existent financial gaps in water quality are delaying the correct implementation of EU environmental law and policies. Therefore, ensuring financial resources to reduce the implementation gap should be considered as a priority for the country.

2019 priority action

- Take steps to secure financing of implementation of the measures needed for the timely achievement of the objectives in the Water Framework Directive and the Floods Directive.

[156] The Biodiversity Information System for Europe.

5. Strengthening environmental governance

Information, public participation and access to justice

Citizens can more effectively protect the environment if they can rely on the three 'pillars' of the Aarhus Convention:
(i) access to information;
(ii) public participation in decision making; and
(iii) access to justice in environmental matters.

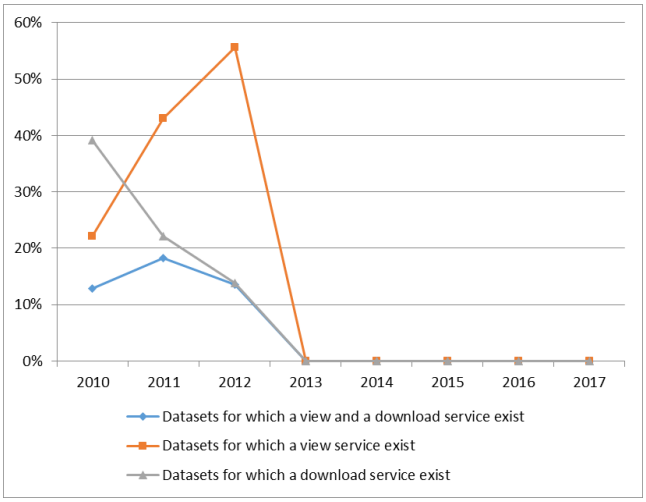
It is of crucial importance to public authorities, the public and business that environmental information is shared efficiently and effectively[157]. Public participation allows authorities to make decisions that take public concerns into account. Access to justice is a set of guarantees that allows citizens and NGOs to use national courts to protect the environment[158]. It includes the right to bring legal challenges ('legal standing')[159].

Environmental information

In the UK, the portals that disseminate environmental information are set up separately. Therefore, the user needs to visit a number of different portals to gather the necessary information. Moreover, most of these sites only provide policy-related documents, so if someone wants to find information about monitoring they need to search the UK's main data portal[160]. In most cases there is no link between the policy-related sites and the sites containing data. In general, it is easy to find the required information. However, information is very limited for some policy areas, such as chemicals. Where available, the information is generally easy to access, download and communicate about, but licensing policies are unclear for some environment-related data sets.

The UK's implementation of the INSPIRE Directive leaves room for improvement. The accessibility of spatial data through 'view and download' services is poor. The UK's performance has been reviewed based on its 2016 implementation report[161] and its most recent monitoring data from 2017[162]. The UK has made good progress in data sharing and reuse, data identification and documentation of data. Additional efforts are needed to make data accessible through services. The UK also needs to make additional efforts to prioritise environmental datasets in the implementation of environmental legislation. In particular, it needs to prioritise datasets identified as high-value spatial data sets[163].

Figure 23: Access to spatial data through view and download services in the UK (2017)



Public participation

In the UK, public participation provisions for the environment are introduced in many individual, sector-specific pieces of environmental legislation and related procedures. The UK has 90 pieces of transposition legislation listed on the EUR-LEX website[164] and this list may not be exhaustive.

In general, the UK has a strong culture of public consultation on policy decisions and new policy frameworks. It has long been viewed as good practice to consult the public before decisions are taken. A short statement of principles on the public consultation approach[165] to be followed is available on a central web page along with all ongoing consultations by the government[166]. There is no specific requirement to publish data on public participation (and the UK does not currently collate this data centrally) but there are specific consultation requirements that apply in the UK that are set out in domestic regulations. These specify that the public, in all cases, must be given sufficient opportunity

[157] The Aarhus Convention, the Access to Environmental Information Directive 2003/4/EC and the INSPIRE Directive 2007/2 together create a legal foundation for the sharing of environmental information between public authorities and with the public. This EIR focuses on INSPIRE.
[158] The guarantees are explained in Commission Notice on access to justice in environmental matters, OJL 275, 18.8.2017 and a related Citizen's Guide.
[159] This EIR looks at how well Member States explain access to justice rights to the public, and at legal standing and other major barriers to bringing cases on nature and air pollution.
[160] Government of the United Kingdom, data portal .
[161] European Commission, INSPIRE UK country sheet 2017.
[162] INSPIRE monitoring dashboard.
[163] European Commission, List of high value spatial data sets.
[164] EUR-LEX, UK transposition legislature.
[165] Government of the United Kingdom, Consultation principles: guidance.
[166] Government of the United Kingdom, Publications: all consultations.

to provide written representations on all environmental impact assessment (EIA) projects, and plans or programmes which are subject to strategic environmental assessment (SEA).

The Eurobarometer figures from 2017 show that people in the UK agree very strongly (93 % of respondents) that an individual can play a role in protecting the environment. This is a significant improvement compared with 2014.

Access to justice

The UK government's website includes information from individual UK departments. However, it does not have any information for the general public on their right to access to justice on environmental matters. Neither the Ministry of Justice nor DEFRA appear to have developed any transparent or user-friendly documentation on the subject.

The system of judicial review is the main means for individuals or environmental organisations to challenge public authorities' decisions. This includes enforcement authorities' decisions not to take action against private bodies responsible for pollution or other environmental infringements. However, the judicial review is not concerned with the merits of a decision or whether the public body has made the 'right' decision. The only question before the Court is whether the public body has acted unlawfully. The Court is not expected to substitute its judgment for that of the decision-maker.

In the last few years, while acknowledging its Aarhus Convention obligations, the government has made it a policy to reduce the number of judicial review cases brought in general. In 2013, the government carried out a public consultation on a range of possible changes to the judicial review system[167], including a more restrictive approach to standing. Many responses to the public consultation were somewhat critical of the government's positions. However, the government pointed out that the changes to the cost structure for judicial review aimed in part to reduce the number of cases brought by those without a direct interest in the outcome. The standing rules remain fairly liberal, notwithstanding the 2013 policy debate about possible restrictions. The limitations of the process have been underlined by the UK's decision to leave the EU.

The general principle that applies to civil cases in the UK — which includes the judicial review of administrative decisions — is that each party pays its own legal costs. Costs orders at the end of proceedings may require the losing side to meet part or all of the winning side's costs. Courts may also make a 'protective costs order' which limits the potential costs faced by a claimant, particularly in cases which raise issues of general public importance. Legal aid has been progressively withdrawn from judicial review cases, and is now only available in some cases where the claim could potentially provide a meaningful benefit for the individual, a member of the individual's family or the environment.

To address concerns about costs in environmental cases, the government introduced a new environmental costs protection regime in 2013. This allows the Court to fix the costs faced by claimants in environmental cases. However, this system was considered insufficient in meeting the access to justice requirements of Directives 96/61 (IPPC) and 85/337 (EIA) by a CJEU judgment (11 April 2013, case C-260/11). The UK subsequently tried to bring the environmental costs protection regime in line with the CJEU ruling, through new Regulations adopted in 2017[168]. However, those were also found to be partly deficient by a High Court judgment in July 2017[169], leading the UK to amend them further in 2018[170].

Despite the government's efforts, high costs are the biggest barrier to an effective access to justice in environmental matters. In some situations, the costs can be considered prohibitively expensive.

2019 priority actions

- Improve access to spatial data and services by making stronger links between the central INSPIRE website and regional portals. Identify and document all spatial datasets required for the implementation of environmental law[171]. Make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services set out in the INSPIRE Directive.
- Better inform the public about their rights to access justice, notably in relation to air pollution and nature. Ensure that prohibitive costs are not a barrier to environmental litigation.

[167] Ministry of Justice: 'Judicial Review: Proposals for further reform', October 2013.

[168] UK, The Civil Procedure (Amendment) Rules, 2017.

[169] UNECE, RSPB, Friends of the Earth, *ClientEarth* v *Secretary of State* [2017] EWHC 2309.

[170] The Civil Procedure (Amendment) Rules, 2018.

[171] European Commission, INSPIRE.

Compliance assurance

Environmental compliance assurance covers all the work undertaken by public authorities to ensure that industries, farmers and others fulfil their obligations to protect water, air and nature, and manage waste[172]. It includes support measures provided by the authorities, such as:
(i) compliance promotion[173];
(ii) inspections and other checks that they carry out, i.e. compliance monitoring[174]; and
(iii) the steps that they take to stop breaches, impose sanctions and require damage to be remedied, i.e. enforcement[175].
Citizen science and complaints enable authorities to focus their efforts better. Environmental liability [176] ensures that the polluter pays to remedy any damage.

Compliance promotion and monitoring

The quality of online information given to farmers on how to comply with obligations on nitrates and nature is an indicator of how actively authorities promote compliance in areas with serious implementation gaps. In England, such information is easily accessible and comprehensive. For nitrate vulnerable zones, detailed information[177] can be found by searching the 'gov.uk' website, using terms such as 'nitrates', or 'fertiliser use'. The site includes an interactive map so that land managers can check whether their land is in a nitrate vulnerable, by entering the postcode, address, or map coordinates. Farmers and land managers can also get free (online) advice from the Farm Advice Service, on how to meet the cross-compliance requirements for payments under the CAP. The cross-compliance guidance for 2018[178] clearly sets out what farmers need to do to comply with nitrate vulnerable zones (statutory management requirements (SMR) 1).

This cross-compliance guidance also includes detailed information on SMR2 on the Birds Directive, and SMR 3 on the Habitats Directive. However, for these, the requirements are much simpler than for nitrate vulnerable zones, as they only consist of the need to comply with management notices and getting permission from Natural England before carrying out specified operations.

Major industrial installations can be a serious pollution risk. Public authorities must have plans in place to inspect these installations and to make individual inspection reports available to the public[179]. Inspection plans are not regularly published in the UK. However, the Environment Agency in England publishes a statement of how it uses risk assessment to plan its compliance and enforcement activities. This statement includes information on how it plans inspections[180]. Results of specific inspections are not routinely published but there is a public register of permit-related information [181] , and inspection information can be searched electronically[182].

Citizen science and complaint handling

Engaging the general public through citizen science can increase knowledge about the environment and help the authorities in their work. The UK Earth Observation Framework, a partnership of policymaking and research bodies funded by the Natural Environment Research Council and DEFRA, has set up a citizen science working group and published a guide to using citizen science[183]. Citizen science is used extensively in biodiversity. Data provided by volunteers has long been used in annual surveys of wild bird populations and more recently for studies on coccinelidae. The public also provides information on the spread of plant diseases (for example, ash dieback, and diseases affecting horse chestnut trees).

The availability of clear online information about how to make a complaint shows how responsive authorities are to complaints from the public. In England, information on complaints about environmental nuisances and reports of environmental damage is available on the 'gov.uk' website and can be found through a number of different word searches (for example 'how to make an environmental complaint'). The 'Report an environmental incident' webpage [184] provides the

[172] The concept is explained in detail in the Communication on 'EU actions to improve environmental compliance and governance' COM(2018)10 and the related Commission Staff Working Document, SWD(2018)10.
[173] This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.
[174] This EIR focuses on inspections of major industrial installations.
[175]This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[176] The Environmental Liability Directive 2004/35/EC, creates the framework.
[177]Government of the United Kingdom, Guidance: Using nitrogen fertilisers in nitrate vulnerable zones.
[178] Government of the United Kingdom, The guide to cross compliance in England 2018, pp 39 ff.
[179] Article 23, Industrial Emissions Directive2010/75/EU.
[180] Environment Agency, 'Environmental Permitting Regulations Operational Risk Appraisal (Opra for EPR), version 3.91', April 2017,
[181] Government of the United Kingdom, Register of enforcement actions
[182] To pinpoint specific types of offence, the user would need to know the name of the implementing legislation in England. The entries on the register provide a simple summary of the action taken (caution; enforcement notice; court case), but do not provide any detailed documentation.
[183] Tweddle, J.C., Robinson, L.D., Pocock, M.J.O. & Roy, H.E (2012). Guide to citizen science: developing, implementing and evaluating citizen science to study biodiversity and the environment in the UK. Natural History Museum and NERC Centre for Ecology & Hydrology for UK-EOF.
[184] Government of the United Kingdom, Report an environmental incident.

Environment Agency hotline number, as well as information on the types of issues that should be routed to local government enforcement departments (for example, littering incidents). A similar webpage and hotline are run by SEPA [185] and Natural Resources Wales[186] and. A more limited webpage, mainly focusing on water pollution, is available in Northern Ireland, along with a hotline.

Enforcement

When monitoring identifies problems, a range of responses may be appropriate. In the UK, several tools have been developed that allow the user to select the appropriate enforcement measure to effectively tackle a specific type of non-compliance. For instance, the guidance on penalties for environmental crimes, developed by the UK Sentencing Council and the SEPA compliance-spectrum-model for analysing the causes of non-compliance, help ensure that enforcement is targeted and proportionate. The Environment Agency[187], SEPA, and Natural Resources Wales all publish annual activity reports. These generally include summary statistics on enforcement action[188]. Detailed statistics on the numbers and severity of specific cross-compliance breaches on nitrates (SMR1), birds (SMR2) and habitats (SMR3) are published annually in the cross compliance pages on GOV.UK[189].

However, structured statistics[190] on responses to cross-compliance breaches on nitrates and nature seem to be lacking.

Tackling waste, wildlife crimes and other environmental offences is especially challenging. It requires close cooperation between inspectors, customs authorities, police and prosecutors. In the UK, the National Wildlife Crime Unit supports police forces across the UK on dealing with wildlife crime. It publishes an annual public version of its assessment of wildlife crime intelligence[191].

In addition, the UK Partnership for Action against Wildlife Crime, brings together a number of statutory and voluntary bodies (police, UK Border Agency, DEFRA, Home Office, Natural Resources Wales, Scottish Natural Heritage, the Joint Nature Conservation Committee, Royal Botanic Gardens Kew, the Welsh government, Natural Resources Wales, the Northern Ireland Environment Agency, and environmental and animal welfare NGOs) to discuss how to improve cooperation.

On preventing, investigating and enforcing wildlife crime, a memorandum of understanding[192] sets out Natural England and Natural Resources Wales roles and approach to cooperation as well as that of the Crown Prosecution Service and the police forces. For waste crimes, the available information can be found in the reports of the main implementation bodies, although a clear distinction is not always made between different types of offences or enforcement measures. Furthermore, the reports do not provide detailed information on cooperation arrangements for tackling waste crime.

Environmental liability

The Environmental Liability Directive (ELD) establishes a framework based on the 'polluter pays' principle to prevent and remedy environmental damage. The 2017 EIR focused on gathering better information on environmental damage, on financial security and guidance.

2019 priority actions

- Better inform the public about compliance promotion, monitoring and enforcement. At a minimum this should involve providing more online information on inspection plans and reports on industrial inspections. Similarly, it should involve publishing information on the outcomes of enforcement action .
- Ensure more information is available on how professionals dealing with waste crime work together.
- Improve financial security for liabilities and ELD-guidance and publish information on environmental damage.

[185] The Scottish Government, Report an environmental incident.
[186] Natural Resources Wales, Report an Incident.
[187] UK Environment Agency, 'Regulating for people, the environment, and growth', 2017.
[188] However, it is not possible to identify detailed information broken down by types of incident, and types of offence. An annual activity report for the Northern Ireland Environment Agency has not been found on the relevant official websites.
[189] Government of the United Kingdom, Collection Cross compliance. Data can be accessed via the main Cross Compliance page (), by choosing a year for which inspections are complete e.g. 2017, going to that page, scrolling down for a link to detailed breach rate data. Data is available for 2015, 2016 and 2017.
[190] A table with information setting out the failures recorded in respect of each aspect of cross compliance in England is available online but it does not indicate the follow-up action taken. Scotland, similarly, has uncommented data on cross compliance failures, but with no indication of the follow-up action taken.
[191] Government of the United Kingdom, National Wildlife Crime Unit (NWCU)Tactical Assessment, 2017.
[192] Government of the United Kingdom, The Memorandum of Understanding.

Effectiveness of environmental administrations

Those involved in implementing environmental legislation at EU, national, regional and local levels need to have the knowledge, tools and capacity to ensure that the legislation and the governance of the enforcement process bring about the intended benefits.

Administrative capacity and quality

Central, regional and local administrations must have the ability to carry out their own tasks and work effectively with each other within a system of multi-level governance.

In general, the UK has a good track record for communicating new implementing legislation on time.

The UK currently has 12 open infringements in the areas of water, urban waste water treatment, ambient air quality, nature conservation and environmental assessments.

Individuals or NGOs have brought environmental cases before the national courts in recent years. In some of these cases, the UK judges referred requests for preliminary rulings to the Court of Justice of the EU. This was a valuable contribution to the development of EU environmental law, since preliminary rulings enable the Court of Justice to give a consistent interpretation of the EU law.

Coordination and integration

As mentioned in the 2017 EIR, the transposition of the revised EIA Directive 2014/52/EU into national law provides an opportunity for countries to streamline their regulatory framework on environmental assessments. The UK has now notified measures to transpose the Directive.

The Commission encourages the streamlining of environmental assessments to reduce duplication and avoid overlaps in environmental assessments for projects. Streamlining helps to reduce unnecessary administrative burden. It also accelerates decision making, without compromising the quality of the environmental assessment procedure. In 2016, the Commission published guidance [193] for setting up coordinated and/or joint procedures that are simultaneously subject to assessments under the EIA Directive, the Habitats Directive, the Water Framework Directive, and the Industrial Emissions Directive.

Adaptability, reform dynamics and innovation (eGovernment)

According to the Commission's assessment of digital public services, the UK's score is lower than the EU-28 average. In the DESI Report 2018, the United Kingdom had a score of 57 out of 100 on digital public services, EU average being 58[194].

However, this contrasts with the information provided in the UK's 2016 eGovernment survey, which shows the UK to be the highest ranked Member State for both eGovernment and eParticipation.

The 2017 digital strategy's annexes do not set out examples of progress in the area of environment. However, examples of services available online include: (i) agricultural grants (including agri-environment payments) under the CAP; (ii) the Environment Agency's flood warning maps; and (iii) a range of registration and permitting functions (for example, waste transfers, registering as a carrier of waste, environmental permits including for the Industrial Emissions Directive, water abstraction licences etc.).

Enabling financing and effective use of funds

Although there is information on funding opportunities linked to the environment, the available information is scattered on a number of government sites. The approach to using funds to improve the environment varies across the four countries of the UK.

A government webpage on organic farming provides information on the grants available for rural development in England. However, no information on funding opportunities linked to the environment or environmental investments is provided on the government's website. Information provided by England on EU structural funds does not mention funding opportunities for environmental projects and information on LIFE is practically non-existent.

The Scottish government has a comprehensive, but not very up-to-date, website with funding opportunities linked to the environment and to climate. The SEPA website also has information about some funding opportunities. The Welsh government's website does have easily accessible information on funding opportunities linked to environment. Its up-to-date web page sets out the types of grants available and provides information on who has received funding in the past. It

[193] Commission notice — Commission guidance document on streamlining environmental assessments conducted under Article 2(3) of the Environmental Impact Assessment Directive (Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU).

[194] European Commission, Digital Economy and Society Index Report 2018, Digital Public Services.

also has a subsection on funding for green infrastructure development and on EU funding. Northern Ireland's Environment Agency's website has information on available grants for energy efficiency, but not on funding opportunities directly linked to the environment or environmental investments.

The UK Government announced in 2010 the establishment of a Green Investment Bank, with an endowment of public funds, and the intention to mobilise private sector investment to support the UK's transformation to a green economy. The Bank, when established in 2012, was allocated up to £3.8bn of funding to support investments, and between 2012-2017 committed £3.4bn of funding to support projects worth over £12bn, a mobilisation ratio of £3 of third party funding for every £1 it invested. In 2017 the UK Government sold GIB to Macquarie group, moving it into the private sector where it is now known as the Green Investment Group and is an independent entity. A special share, held by independent trustees, preserves the original mission and green purposes of GIB, and the new Green Investment Group has expanded into Europe, Asia and America.

2019 priority action

- UK can further improve its overall environmental governance (such as transparency, citizen engagement, compliance and enforcement, as well as administrative capacity and coordination).

International agreements

The EU Treaties require the EU environmental policy to promote measures at international level to deal with regional or worldwide environmental problems.

The EU is committed to strengthening environmental law and its implementation globally. It therefore continues to support the Global Pact for the Environment process, which was launched by the United Nations General Assembly in May 2018[195]. The EIR is one of the tools to ensure that the Member States set a good example by respecting European Union environmental policies and laws and international agreements.

The UK has signed but not yet ratified the Protocol on SEA to Espoo Convention and the first (2014) and second (2017) amendments to the Espoo Convention.

[195] UN General Assembly Resolution 72/277 and Organizational session of the ad hoc open-ended working group.

Forests: EU Timber Regulation (EUTR)[196]/ Forest Law Enforcement, Governance and Trade (FLEGT) Regulation[197]

In accordance with the EUTR, which prohibits the placing on the EU market of illegally harvested timber, competent authorities in EU Member States must conduct regular checks on operators and traders, and apply penalties in case of non-compliance.

Between March 2015 and February 2017, the UK carried out a total of 184 planned checks on operators importing timber. These checks focused on oak flooring, rosewood, timber from Cameroon, South America, Ukraine, the Russian Federation and Myanmar. They also focused on previously non-compliant operators or supply chain issues. However, the number of checks is low when compared with the estimated number of operators who import timber into the UK[198]. The UK did not report the estimated number of operators of *domestic* timber or the number of checks conducted on these operators.

At 77, the UK reported the highest number of penalties on imported timber.

On cooperation (Article 12 of the EUTR), the UK reports to have collaborated with various government institutions within the UK. It has also cooperated with other EU competent authorities, mainly through the FLEGT/EUTR expert group meetings and the ad hoc expert group on FLEGT.

Genetic resources: Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising (ABS)[199]

The UK has appointed a competent authority for genetic resources and has applied sanctions for infringements of the Regulation. The government has put in place a risk-based plan for checks and has conducted such checks (on-site visits and inspections). However, the UK has not submitted a due diligence declaration to date, nor has it applied any penalties. The UK submitted its first ABS Regulation implementation report to the Commission at the end of 2017.

[196] Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010.

[197] Regulation (EC) No 2173/2005 of 20 December 2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community.

[198] Based on customs' data, it was estimated that 6'000 operators imported timber.

[199] Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation in the Union Text with EEA relevance.

International wildlife trade: Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[200]

In line with the obligations laid down in the Basic Regulation[201]which transposes the major obligations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) into EU law, the UK has established relevant national authorities and regularly processes requests for import, re-export and intra-EU trade documents.

Reports on seizures of illegal wildlife shipments (in particular those reported every 6 months to TRAFFIC under its contract with the Commission and those exchanged through the EU-TWIX platform), show the extent of the customs authorities' activity.

To ensure the EU wildlife action plan (2016) is fully implemented, the UK organises capacity-building activities for enforcement bodies in Africa and Asia. For example, the British military trains rangers in Gabon and Malawi.

In May the UK Government introduced the Ivory Bill, which will enact a ban in commercial dealing in ivory in the UK. The ban is subject to a small number of narrow and clearly defined exemptions for items that do not contribute directly or indirectly to the poaching of elephants. The Government, through the Ivory Bill, is addressing both domestic and international commitments.

Sustainable development and the implementation of the UN SDGs

Sustainable development links environmental, social and economic policies in a coherent framework and therefore helps to implement environmental legislation and policies.

The UK is committed to the delivery of the Sustainable Development Goals (SDGs). All Government Departments have embedded the SDGs across their programme of work, namely through the Single Departmental Plan (SDPs) process. This is an established process to focus Government's efforts on important issues and provides the basis for the Government's planning and performance framework. In their plans, Departments highlight how the priority programmes and activities for which they are responsible will contribute towards delivery of the Goals. Reflecting the conclusions of Departmental business planning processes for 2018/19, on the 23rd May, the Government published high-level summaries of the Single Departmental Plans on GOV.UK, which highlighted areas of Goal delivery. The Government also updated "Implementing the Sustainable Development Goals"[202], highlighting some of the ways in which the Government will support the delivery of the Goals through its domestic and international programme.

The UK plans to present a Voluntary National Review in 2019. DFID is working closely with the Cabinet Office and other Government Departments, and will ensure that the Review is holistic and takes account of the UK's domestic and international contributions to this global agenda.

[200] The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

[201] Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein (the Basic Regulation).

[202]Government of the United Kingdom, Corporate report, Implementing the Sustainable Development Goals - December 2017