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**The EU Environmental Implementation Review 2019
Country Report - IRELAND**

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**

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Executive summary

Ireland and the Environmental Implementation Review (EIR)

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

- the need to complete the Natura 2000 designation process for terrestrial and marine sites;
- the need to protect the raised and blanket bogs;
- maintaining the important investments required for water treatment, given the urgent need to invest in water infrastructure.

Since the 2017 EIR, Ireland has not organised an EIR national dialogue that would have made it possible to address the above challenges.

In 2017, the Commission launched a new tool to promote peer-to-peer learning between environmental authorities. The tool is called TAIEX-EIR P2P (short for 'Technical Assistance and Information Exchange – Environmental Information Report – Peer-to-Peer).

Ireland has made good use of TAIEX-EIR P2P by hosting a workshop on waste management, providing peer-to-peer expertise to Romania on managing the closure and after-care of certain landfill sites, and a workshop on the urban green economy. The latter was open to participation by winning cities in the Green Leaf network from across the EU (like Galway).

Progress on meeting challenges since the 2017 EIR

Ireland has made some progress on the designation of nature sites and special area of conservation (SAC) sites. It has also made some progress on drawing up conservation objectives for these sites. However, there is still a lack of clarity on Ireland's conservation measures.

Since the 2017 EIR, Ireland has also made progress in finalising the national raised bog SAC management plan. It has also improved the protection of raised bog sites and begun to restore them. However, Ireland has only made slow progress in protecting blanket bog sites.

Water treatment continue to be a concern. There is a low compliance rate with the Urban Wastewater Treatment Directive. This is due to the large number of non-compliant agglomerations, one of which is an agglomeration with a population equivalent of more than 2 000 000 population equivalent (p.e.). Finally, almost half of the agglomerations that are required to have more stringent treatment systems in place are also non-compliant. Ireland also has problems with its drinking water. The quality of Ireland's bathing waters is below average. The country's new water pricing system requires monitoring to ensure that it works in practice. The abstraction of water and hydromorphological changes are still not well controlled.

On air quality, Ireland has made some progress in reducing emissions. However, the levels of nitrogen oxides are still above national emission ceilings. In addition, emissions of ammonia have been increasing since 2011 and were above the specified EU emission limit in 2016.

On waste policy, Ireland has made some progress in applying economic instruments. The rate of increase in recycling is flattening out with movements away from landfilling tending to go to incineration.

Access to justice in environmental matters remains an issue. The Commission is concerned about the cost of bringing an environmental legal action in Ireland.

Examples of good practice

- Ireland is one of the few countries with a geographical information system (GIS) service that provides detailed data on ecosystems and their services that is also available to the public. This GIS service is accessible to the public online.
- Ireland is very strong in environmental R&D, attracting many researchers and a lot of early-stage green investment.
- Ireland has made good use of EU co-financing for environmental projects (especially through the LIFE programme and European Investment Bank loans).

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 circular (secondary) use of material in Ireland was 1.7 % in 2016. This is well below the EU-28 average of 11.7 %[3].

In the 2017 Special Eurobarometer 468 on attitudes of EU citizens towards the environment, 85 % of Irish people said they were concerned about the effects of plastic products on the environment (the EU-28 average was 87 %). 91 % of Irish people said they were worried about the impact of chemicals (the EU-28 average was 90 %)[4]. Moreover, 94 % of Irish people support greater EU investment in environmental protection (the EU-28 average was 85 %). There appears to be support in Irish society for circular economy initiatives and environmental protection actions.

Ireland has actively promoted the circular economy at an international level. For example, Ireland participated in the first World Circular Economy Forum in Helsinki, and gave a very strong message of long-term support for the transition towards a more circular economy. But despite the government's vocal support for the circular economy, Ireland still does not have a national strategy for the circular economy, even if it has had a national resource efficiency programme since 2004[5]. Ireland's circular economy efforts would be strengthened by adopting a more consistent policy approach.

"Towards a Resource Efficient Ireland" is a national strategy to 2020 that incorporates Ireland's National Waste Prevention Programme (NWPP). It sets out the current national approach to supporting waste prevention and the circular economy, and highlight the key role of the National Waste Prevention Programme in delivering initiatives and supports to promote Ireland's transition to a low-carbon, circular economy as well as providing leadership on national priorities such as food waste prevention.

Ireland performs above the EU average in resource productivity[6] (a measure of how efficiently the economy uses material resources to produce wealth), at EUR 2.31/kg in 2017 (i.e. EUR 2.31 of value is produced on average for every kilogram of resources used; the EU average is EUR 2.04/kg). Figure 1 shows there has been a significant increase in resource productivity since 2010. This was followed by a decrease in resource productivity from 2015 to 2017.

Figure 1: Resource productivity 2010-2017[7]
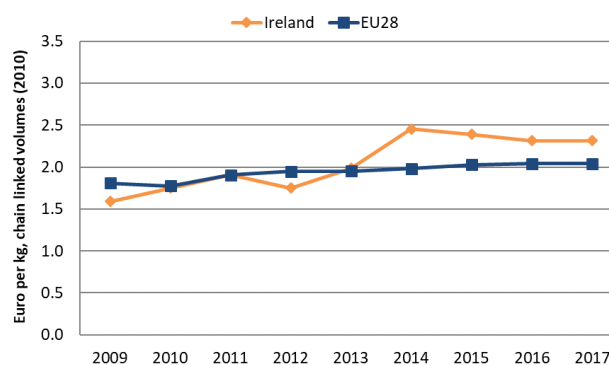
Measuring the transition of a certain country towards a more circular economy is a complex task. However, the number of EU Ecolabel products and EMAS-licensed organisations (EMAS is the European Commission's Eco-Management and Audit Scheme – a programme to

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[1] European Commission, 2018 Circular Economy Package.
[2] COM(2018) 029.
[3] Eurostat, Circular Economy Indicators
[4] European Commission, Special 486 Eurobarometer, 'Attitudes of European citizens towards the environment', 2017.

[5] EPA, Towards a Resource Efficient Ireland.
[6] Resource productivity is defined as the ratio between gross domestic product (GDP) and domestic material consumption (DMC).
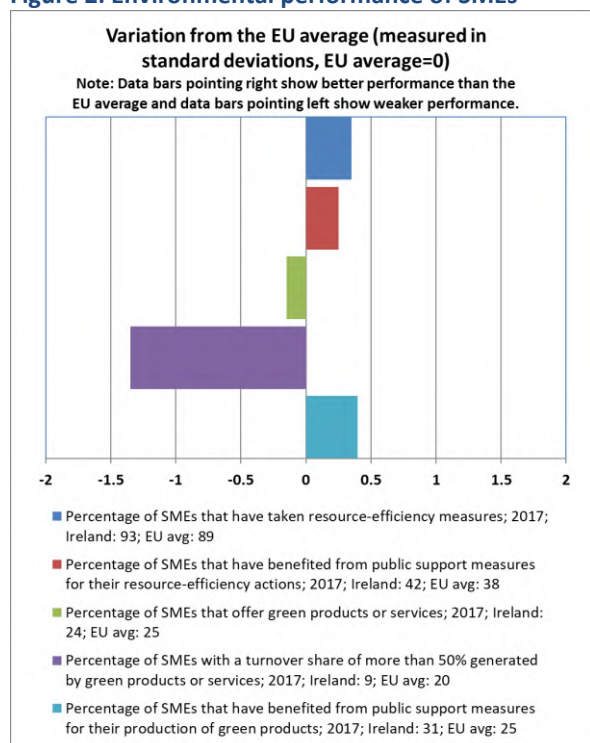[7] Eurostat, Resource productivity.

encourage organisations to behave in a more environmentally sustainable way) in a country can give a rough measurement of this transition. These two indicators show to what extent the circular economy 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, Ireland had only 35 products and 5 licences registered in the EU Ecolabel scheme out of a total of 71 707 products and 2167 in the EU. This shows a low take-up of these schemes in the country[8]. Moreover, only three organisations from Ireland were registered in EMAS as of May 2018[9]. However, Ireland has greater take-up in the ISO 14001 Environmental Management System standard – over 600 companies.

SMEs and resource efficiency

Irish SMEs continue to score in line with the EU-28 average in environmental dimension of the small business act, as shown in Figure 2.

The percentage of Irish SMEs that benefit from public support for their production of green products (31 %) remains well above the EU average (25 %). However, the percentage of Irish companies that generate more than 50 % of their turnover from such products is lower than the EU average.

Figure 2: Environmental performance of SMEs[10]

Variation from the EU average (measured in standard deviations, EU average=0)
Note: Data bars pointing right show better performance than the EU average and data bars pointing left show weaker performance.

- Percentage of SMEs that have taken resource-efficiency measures; 2017; Ireland: 93; EU avg: 89
- Percentage of SMEs that have benefited from public support measures for their resource-efficiency actions; 2017; Ireland: 42; EU avg: 38
- Percentage of SMEs that offer green products or services; 2017; Ireland: 24; EU avg: 25
- Percentage of SMEs with a turnover share of more than 50% generated by green products or services; 2017; Ireland: 9; EU avg: 20
- Percentage of SMEs that have benefited from public support measures for their production of green products; 2017; Ireland: 31; EU avg: 25

The latest Eurobarometer on 'SMEs, resource efficiency and green markets'[11] 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 5 % of Irish companies have not taken any resource efficiency measures recently, the second-lowest rate in the EU-28. In addition, only 10 % of companies said they would not take any further resource-efficiency measures in the next 2 years. The Eurobarometer also shows that waste minimisation and recycling score highest in the future ambitions of Irish SMEs. In almost all measures of environmental performance, Irish SMEs are significantly more ambitious than 2 years earlier.

The Eurobarometer showed that 24 % of Irish SMEs (compared to 22 % in the EU-28) relied on external support in their efforts to be more resource efficient. Among Irish SMEs, grants and subsidies are mentioned by 34 % as helpful. 29 % of Irish SMEs (the second-highest percentage in the EU-28) said there was a need for advice on funding and financial planning of investments. Irish respondents were also more likely than the EU average respondent to say that databases containing best practices and self-assessment tools were useful.

The ambitions of Irish SMEs to invest in resource efficiency are increasing, and there is considerable potential to make these investments in Ireland. The Eurobarometer survey showed that Irish SMEs consider advice from business associations, the private sector and the public sector to be almost equally important. Some evidence can be found in www.greenbusiness.ie.

Eco-innovation

In 2018, Ireland ranked ninth on the European Innovation Scoreboard 2018, making it the eighth-fastest-growing innovator in the EU (an 8.5 % increase since 2010)[12]. Ireland's eco-innovation performance and transition to a circular economy has continued to improve in 2016-2017 reaching a score of 99 against an EU-average of 100. This is a slight increase compared to its performance in 2014-2015 (when it scored 94). Ireland ranks 11th in the EU Eco-innovation Index.

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[8] European Commission, Ecolabel Facts and Figures.
[9] European Commission, Eco-Management and Audit Scheme.
[10] European Commission, 2018 SBA fact sheet - Ireland, p.16.

[11] 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.
[12] European Commission, European innovation Scoreboard 2018.

**Figure 3: 2017 Eco-innovation index (EU=100)**[13]
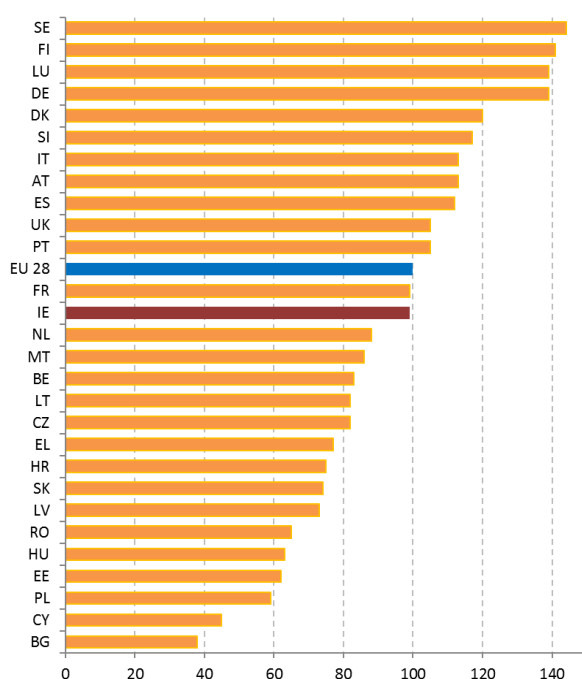
This score is very close to the EU-average, so Ireland's performance is satisfactory. However, some weaknesses can be identified in Ireland's eco-innovation performance. The country needs to increase investment on innovation in firms and manufacturers. On resource efficiency, all indicators are above the EU-average. This highlights the progress made by Ireland in material productivity and energy productivity. Ireland is also very strong in R&D, attracting many researchers and large amounts of early-stage green investment.

Figure 4: Ireland's eco-innovation performance
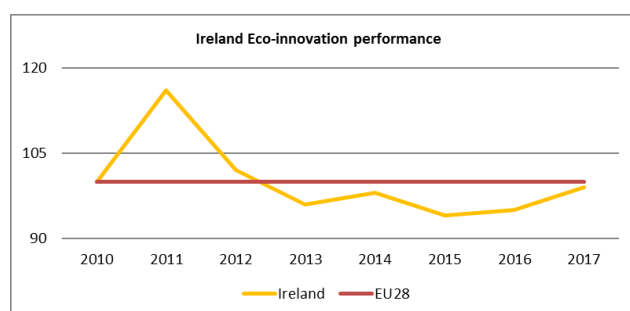
Innovation and applied research are important elements of the National Waste Prevention Programme which supports the circular economy, waste prevention and better resource management in Ireland. In 2018, the EPA launched a €600,000 funding programme to support innovators called: Innovation for a Circular Economy.

Since 2015, several significant policies have been developed that promote eco-innovation. These include:

- a national planning framework for Ireland;
- a national waste prevention programme;
- a strategic plan for the environment;
- programmes on renewable energy (the national energy efficiency action plan, the energy policy white paper, Ireland's first mitigation plan, and the national renewable energy action plan).

The Environmental Protection Agency and Enterprise Ireland have developed several support measures to help businesses adopt resource-efficient and circular-economy practices. The government has also adopted green public-procurement initiatives, which increasingly emphasise the procurement of resource-efficient or less-polluting goods and services[14].

2019 priority action

- Develop a more coherent circular economy policy framework.

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[15] for which EU law sets mandatory recycling targets[16].

Municipal waste generation in Ireland (Figure 5) fell from 624 kg/pc (kilograms per capita) in 2010 to 581 kg/pc in 2016. This was still higher than the EU average of 486 kg/pc for the same year. Figure 5 depicts municipal waste by treatment type in Ireland.

The steady progress Ireland made in meeting its recycling targets has slowed in recent years (Figure 6). However, projections indicate that Ireland should be very close to meeting its targets for 2020. The pay-as-you-throw scheme (i.e. charging households each time they dispose

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[13] European Commission, Eco-Innovation Observatory: Eco-innovation Scoreboard 2017.

[14] European Commission, Eco-Innovation Observatory: Eco-innovation Country Profiles 2016-2017.

[15] 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.

[16] 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.

of municipal waste) introduced in 2017 is expected to be the driving force for compliance with these targets.

Figure 5: Municipal waste by treatment type in Ireland 2009-2016[17]
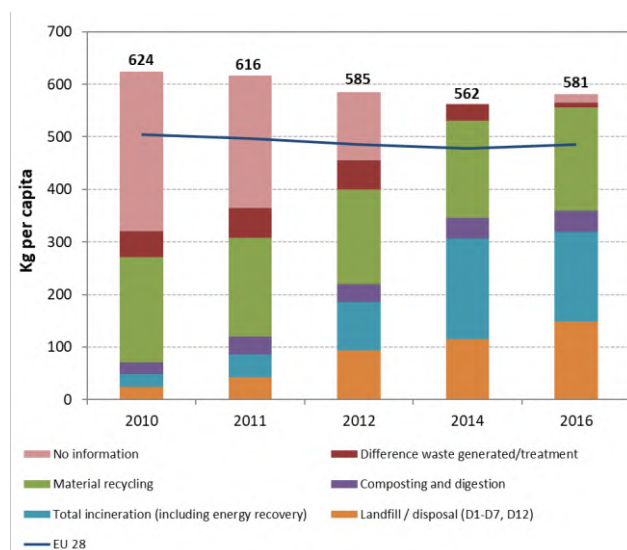
Although the recycling rate has not changed greatly, in 2016 Ireland recycled 41% of municipal waste, it is noteworthy that from 2013 to 2016 Ireland substantially reduced its landfill rate (from 38 % to 26 %), and increased waste incineration (from 16 % to 29 %). Behind this successful reduction in landfilling are economic instruments such as an increased levy on waste sent to landfill.

The increased use of incineration must also be closely monitored. Ireland must ensure that increased incineration does not prevent it from meeting the post-2020 recycling targets[18]. Similar caution is required for future investments in mechanical biological treatment plants based on mixed waste input. Ireland must ensure these plants do not prevent it from meeting its recycling targets.

Since the last report, Ireland has reduced the number of households that do not have a contract with a waste-removal service. In addition, Ireland introduced a requirement to sort household food waste. Ireland has also phased out flat rate charging and now requires that some form of weight- or lift-based charging is applied to residual household waste. Ireland could achieve even more progress by introducing tax incentives for households to move waste further up in the 'waste
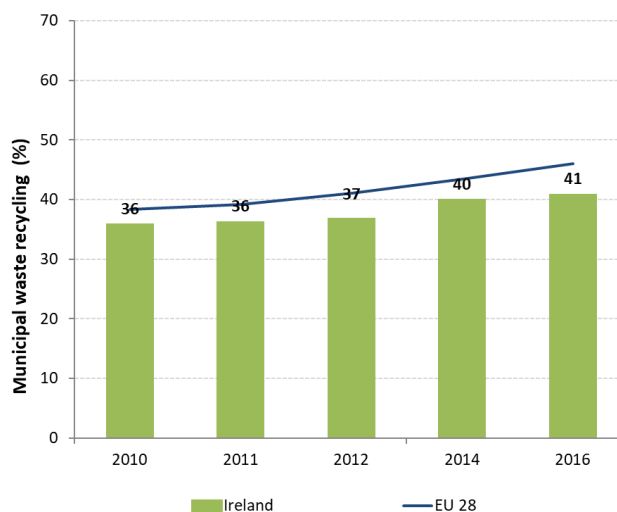
hierarchy' (i.e. to produce less residual waste by encouraging waste prevention and waste recycling).

It is worth noting Ireland has made an effort to increase public awareness and participation via several awareness and education measures, including on food waste and separate collection.

Figure 6: Recycling rate of municipal waste 2009-2016[19]

Experts from Ireland's environmental authorities shared their experience on managing the closure and after-care of certain landfills with Romanian environmental authorities in a TAIEX-EIR expert visit in Bucharest, held in January 2018. The EPA continues to process applications from Local Authorities in Ireland in relation to "closed landfills" in accordance with the Waste Management Regulations. The EPA has adopted a risk based assessment procedure that allows all historic unregulated waste disposal sites to be identified; the potential risks to be assessed and then the appropriate remedial measures or corrective actions to be put in place.

2019 priority actions

- Introduce new policy instruments, including economic instruments, to promote prevention, make reuse and recycling more economically attractive.
- Shift reusable and recyclable waste away from incineration and landfilling.
- Increase recycling rates by making the separate collection obligation more effective. Carry out a review of recent reforms to the waste collection market.
- Provide more timely waste generation and management data.

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[17] Eurostat, Municipal waste by waste operations. For Ireland, 2015 data were not available however it is published here: EPA, Progress to EU targets.

[18] 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.

[19] Eurostat, Recycling rate of municipal waste, 2015 data not available.

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.

Figure 7: Change in total greenhouse gas emissions 1990-2017 (1990=100%)[20]
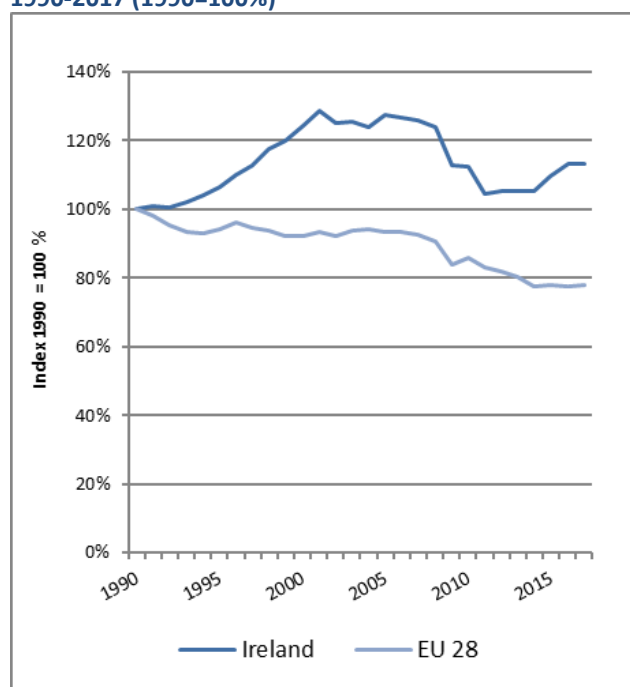

For emissions not covered by the EU ETS, Member States have binding national targets under the effort sharing legislation. Ireland had lower emissions than its annual targets under the Effort Sharing Decision in each of the years 2013-2015, while in 2016 emissions were slightly higher than the annual target. According to preliminary

data, emissions in 2017 exceeded the AEAs by 7 percentage points (Figure 8). For 2020, Ireland's national target under the EU Effort Sharing Decision is to reduce emissions by 20 % compared to 2005. For 2030, Ireland's national target under the Effort Sharing Regulation will be to reduce emissions by 30 % compared to 2005. With existing measures, the 2020 target is projected to be missed by 20 percentage points and the 2030 target by 31 percentage points.

The Climate Action and Low-Carbon Development Act created statutory obligations for successive five-yearly national mitigation plans, which will detail actions required to achieve the greenhouse gas mitigation obligations of the Irish State under EU and international law. The long-term goal will be a reduction of CO2 emissions of 80% from 1990 by 2050 across electricity generation, built environment and transport sectors, and striving for carbon neutrality in agriculture and land-use sectors. The first National Mitigation Plan was adopted in 2017 and aims to close the gap to Ireland's 2020 target and to prepare for the 2030 target. It contains separate sectoral mitigation transition statements for the four sectors covered under the NMP, namely electricity generation, transport, the built environment and agriculture. The NMP does not provide a complete roadmap to achieve the 2050 objective, but begins the process of development of medium to long term mitigation choices for the next and future decades.

Figure 8: Targets and emissions for Ireland under the Effort Sharing Decision and Effort Sharing Regulation[21]
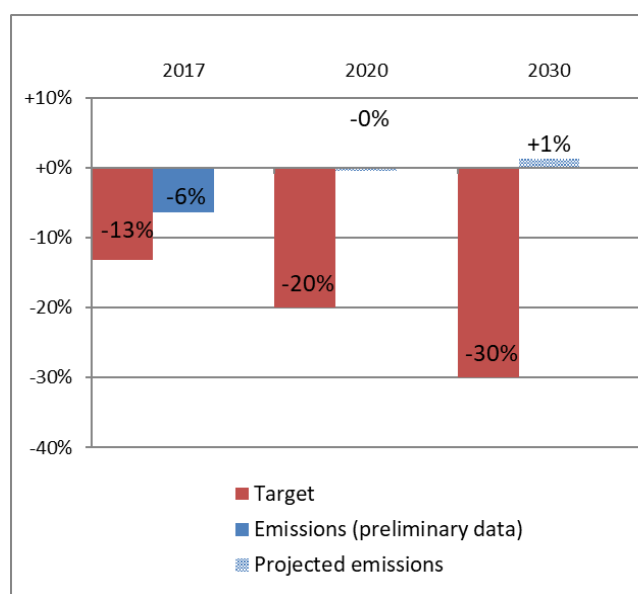
Transport represents almost a quarter of the EU's GHG emissions and is the main cause of air pollution in cities.

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[20] 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.

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

Transport emissions in Ireland increased by 11 % from 2013 to 2016 (shown in Figure 9). For Ireland, emissions from agriculture are a particular challenge as they constitute 30 % of the emissions. Emissions from this sector have been increasing over the last years and are projected to continue increasing towards 2030.

Figure 9: Greenhouse gas emissions by sector (Mt. CO2-eq.). Historical data 1990-2016. Projections 2017-2030[22]
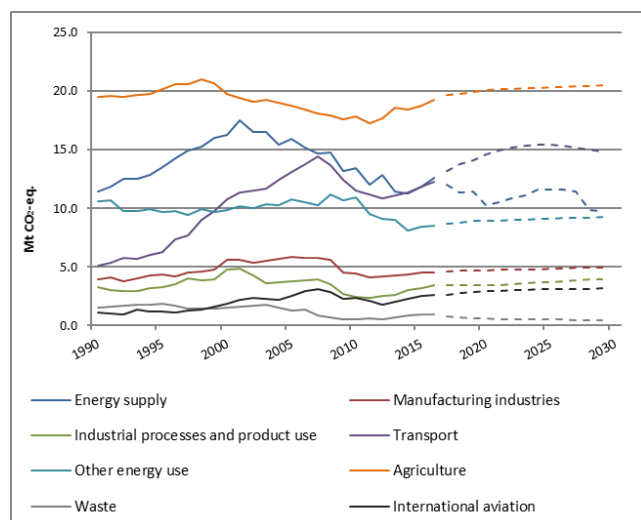
Regarding F-gases (fluorinated greenhouse gases), Member States must implement training and certification programmes and rules for penalties and notify these measures to the Commission by 2017. Ireland has notified both measures.

The accounting of GHG emissions and removals from forests and agriculture is governed by the Kyoto Protocol. Reported quantities under the Kyoto Protocol for Ireland show net emissions of, on average, 2.6 Mt CO_2-eq for the period 2013 to 2016. In this regard Ireland contributes negatively with -0.7% to the annual average sink of -384.4 Mt CO_2-eq of the EU-28. Ireland is one of two EU Member States which show net emissions in this preliminary exercise. Accounting for the same period depicts net credits of, on average, -3.9 Mt CO_2-eq, which corresponds to 3.4% of the EU-28 accounted sink of -115.7 Mt CO_2-eq. Reported net emissions are highest for 2014 and decreased thereafter.

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. A non-statutory National Climate Change Adaptation Framework (NCCAF) was published in 2012. As required under the Irish Climate Action and Low Carbon Development Act (2015), the Government published a National Adaptation Framework (NAF) in January 2018. The Framework currently sets out the national strategy to reduce the vulnerability to negative effects of climate change, building on the work carried out under the NCCAF. Reviewed every five years, the Framework identifies the sectors and lead Departments that will be required to prepare sectoral adaptation plans in line with legislative requirements in addition to requiring local authorities to develop local adaption strategies supported by four newly established Climate Action Regional offices. The statutory NAF will also provide for a regime to increase coordination between sectors and the further integration of climate adaptation within all relevant national policy and legislation – dialogue mechanisms have been put in place.[23] A monitoring system has been set up under the NAF to monitor implementation, including independent review by the Climate Change Advisory Council.

The total revenues from the auctioning of emission allowances under the EU ETS over the years 2013-2017 were EUR 213 million. Ireland does not earmark auctioning revenues for specific uses. An amount equalling 87 % 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.

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[22] 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.

[23] See in particular the National Dialogue on Climate Action and the work of the Citizens Assembly on climate change.

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

Ireland's third national biodiversity action plan (2017-2021) was adopted in 2017[24].

Setting up a coherent network of Natura 2000 sites

On the basis of the latest update, Ireland's terrestrial Natura 2000 network under the Birds and Habitats Directive is now considered to be complete. However, the update said that further designation of SPAs (special protection areas) under the Birds Directive was required, particularly for the Corncrake (*Crex crux*). There are also significant knowledge and designation gaps in Ireland's marine Natura 2000 network, especially under the Birds Directive. These knowledge and designation gaps must be addressed.

Designating Natura 2000 sites and setting conservation objectives and measures

As mentioned in the 2017 EIR, the European Court of Justice issued a ruling against Ireland for its failure to establish a complete list of SCIs (sites of community interest) under the Habitats Directive[25]. However, Ireland's list of SCIs is now considered complete for the terrestrial environment[26]. The Court of Justice also ruled against Ireland in 2007 for failing to designate all the most suitable terrestrial territories as SPAs under the Birds Directive[27]. Ireland now appears to have mostly rectified this problem. However, not all SPAs have been formally made subject to Irish statutory regulations. The

Commission also launched an investigation on the completeness of Ireland's Natura 2000 network for the marine environment. Significant gaps remain in Ireland's marine SPA network, and the completeness of the SCI marine proposal remains to be determined.

As mentioned in the 2017 EIR, by mid-2015 Ireland had designated no Natura 2000 marine sites. There has been some progress since that time. By August 2018 Ireland had designated 173 SACs, which leaves most of the SCIs still be designated. Furthermore, most sites still have only general conservation objectives, and targeted conservation measures do not exist for many sites.

As mentioned in the 2017 EIR, the Commission continues to receive complaints about compliance with the Nature Directive in Ireland. The Commission's most significant concern is the conservation of raised and blanket bogs, which is still subject of an infringement procedure. In recent years, Ireland has made significant progress by drawing up a national peatlands strategy and national raised-bog SAC management plan. There is a LIFE project for the restoration of 12 raised-bog SACs in Ireland, but the planned timeframe of 18 years to restore the other sites is too long. In addition, Ireland has failed to make any significant progress in the management of blanket bogs. In particular, it has not made any progress in ensuring that turf cutting is carried out in a way that is compatible with the conservation of this habitat. Nor has it made an assessment whether turf-cutting is compatible with the conservation of this habitat.

Ireland has conservation issues in SPAs and the wider landscape. One such conservation issue is the decline of waders, particularly the curlew, for which some conservation measures were initiated in 2017. There is also a continuing need to reconcile the protection of the hen harrier with forestry and wind-farm development.

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[24] Department of Culture, Heritage and the Gaeltacht, National Biodiversity Action Plan 2017-2021.

[25] Case C-67/99 - *Commission v Ireland.*

[26] For each Member State, the Commission, with assistance from the European Environment Agency Topic Centre for Biological Diversity, assesses whether the species and habitat types on Annexes I and II of the Habitats Directive, are sufficiently represented by the sites designated to date. This is expressed as a percentage of species and habitats for which further areas need to be designated in order to complete the network in that country. The current data, which were assessed in 2014-2015, reflect the situation up until December 2013.

[27] Case C-418/04 - *Commission v Ireland.*

Ireland has still not completed a long overdue threat-response plan for the hen harrier. Ireland also needs to address the cutting of hedgerows and the burning of uplands during the nesting season of birds.

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

The 2017 EIR referred to Member States' most recent report, dated 2012, on the conservation status of habitats and species. New data on the conservation status of habitats and species will be available for the next EIR.

Overall, it is acknowledged that some improvements in the status of species and habitats have recently been reported in Ireland, where targeted actions have taken place at a sufficient scale.

2019 priority actions

- Complete the Natura 2000 designation process for both terrestrial and marine environments. Put in place clearly defined conservation objectives and the necessary conservation measures so that they may meet their objective of maintaining or restoring species and habitats of community interest to a favourable conservation status across their natural range.
- Take action to ensure that burning in uplands (especially in Natura 2000 areas) and hedgerow cutting are fully compatible with the requirements of the Birds and Habitats Directives.
- Increase efforts to manage blanket bogs.
- Take practical steps to address the serious decline of waders, and further develop the conservation programme for the curlew, both in Natura 2000 sites and the wider countryside.

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 Ireland[28] and a country page on the Biodiversity Information System for Europe (BISE)[29]. This information will also contribute to the final evaluation of the EU Biodiversity Strategy to 2020.

Estimating natural capital

The EU biodiversity strategy calls on Member States to map and assess the state of ecosystems and their services[30] 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.

Ireland has implemented MAES, an EU initiative to gather data on ecosystems. Further action to map ecosystems and their services at local and regional levels is ongoing. Ireland is one of the few countries with a GIS service for data on ecosystems and their services.

The Irish National Parks and Wildlife Service has mapped a number of prioritised ecosystem services using different tools and data[31]. It developed spatial indicators for ecosystem-services mapping, and identified gaps in data and knowledge. This mapping was completed in 2016.

The Irish Forum on Natural Capital provides a range of seminars and training workshops, aimed at developing applying the natural capital agenda in Ireland.

The new national biodiversity action plan (2017-2021)[32] has been launched and includes actions on ecosystem services.

The Irish Environmental Protection Agency continues to fund several research projects related to ecosystem

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[28] 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.
[29] Biodiversity Information System for Europe.
[30] Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends.
[31] National Parks & Wildlife Service, Ecosystems Services, Mapping and Assessment.
[32] National Parks & Wildlife Service, National Biodiversity Plan.

services. These projects include research on the benefits to human health of green space[33], and on valuing the significant ecosystem services provided by Irish coastal, marine and estuarine habitats[34].

At the MAES Working Group meeting held in Brussels in September 2018, it was shown that Ireland has made substantial progress since January 2016 in implementing MAES (Figure 10). This assessment was made by the ESMERALDA project[35], and based on 27 implementation questions. The ESMERALDA project is updated every 6 months.

Figure 10: Level of implementation of MAES (September 2018)

Source: Esmeralda project
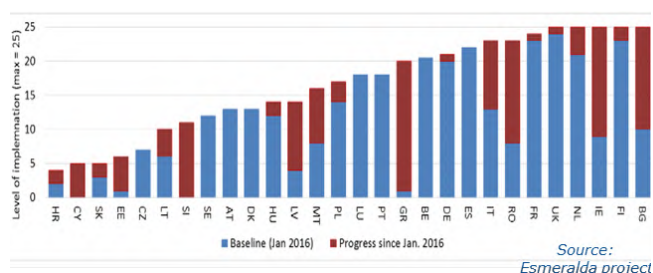
The Irish Forum on Natural Capital[36] engages with Irish business by promoting two business-related initiatives: business guidelines and the biodiversity framework for corporate engagement. One set of business guidelines produced by the Irish Forum on Natural Capital is the All-Ireland Pollinator Plan's business guidelines. These guidelines advise Irish businesses on actions they can take to help pollinators. Post-graduate researchers at Trinity College Dublin are also conducting research focused on the drivers of voluntary corporate biodiversity management. In addition, Business in the Community Ireland[37] provides its members with advice on best practice in corporate social responsibility.

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.

Ireland contributed to the first update of the EU's list of invasive alien species by submitting three risk assessments for invasive alien species present in Ireland:

Nuttall's waterweed (*Elodea nuttallii*), Chilean rhubarb (*Gunnera tinctoria*) and giant rhubarb (*Gunnera manicata*). The first two of these species were considered compliant with the criteria for listing and were listed in the update. However, the submission for giant rhubarb was not considered compliant with the criteria for listing.

In 2017, the EU released a report on the baseline distribution of invasive alien species of Union concern. Ireland reviewed its country and grid-level data to contribute to this report. The report shows that of the 37 species on the first Union list, 12 have already been observed in the environment in Ireland. All 12 of these invasive alien species are considered as 'established' In Ireland (a species being established in a new habitat means it can successfully produce viable offspring with the likelihood of continued survival). The most widely distributed of these invasive alien species is the grey squirrel (*Sciurus carolinensis*).

Figure 11: Number of IAS of EU concern, based on available georeferenced information for Ireland[38]
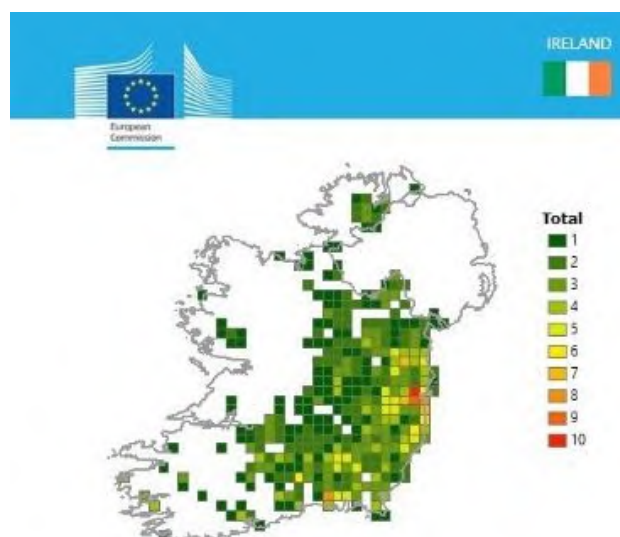
Between the entry into force of the EU list and 18 May 2018, Ireland has submitted five early detection notifications to the European Commission. These notifications are required under Article 16(2) of the Invasive Alien Species Regulation whenever an invasive alien species of Union concern not previously present in a country is detected in a country for the first time. Notifications are also required when an invasive alien species of Union concern that was previously believed to be eradicated from a country reappears. Two of these notifications were for detections of muntjac deer (*Muntiacus reevesi*), and there was one notification each

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[33] Eco-Health.
[34] Nuigalway.
[35] Esmeralda Project.
[36] Irish Forum on Natural Capital.
[37] Business in the Community Ireland.

[38] 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.

for the detection of coypu (*Myocastor coypus*), curly waterweed (*Lagarosiphon major)* and raccoon (*Procyon lotor*). The raccoon was eradicated, as was the muntjac (after its first detection). Eradication measures are now ongoing for the muntjac (after it was detected a second time) and curly waterweed. Although 10 coypu have been trapped, the coypu is not yet considered eradicated.

Ireland has notified the Commission of its competent authorities responsible for implementing the Invasive Alien Species (IAS) Regulation as required by Article 24(2) of the IAS Regulation. The adoption of the national act containing the relevant national provisions on penalties applicable to infringements as required by Article 30(4) of the IAS Regulation is in progress.

2019 priority action

- Ireland is urged to notify its provisions on penalties, as required by Article 30(4) of the IAS Regulation, as soon as its national legislation is adopted.

Soil protection

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.

The percentage of artificial land[39] in Ireland (Figure 12) can be seen as a measure of the relative pressure on nature and biodiversity. This percentage also gives an idea of the environmental pressure caused by people living in urbanised areas. Population density is a similar measure.

Ireland is close to the EU average for artificial land coverage, with 3.9 % of its land under artificial cover. Ireland's population density is 69.3/km[2][40], which is below the EU average of 118/km^2.

Contamination can severely reduce soil quality and threaten human health or the environment. A recent report of the European Commission[41] 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.

Figure 12: Share of artificial land cover, 2015 [42]
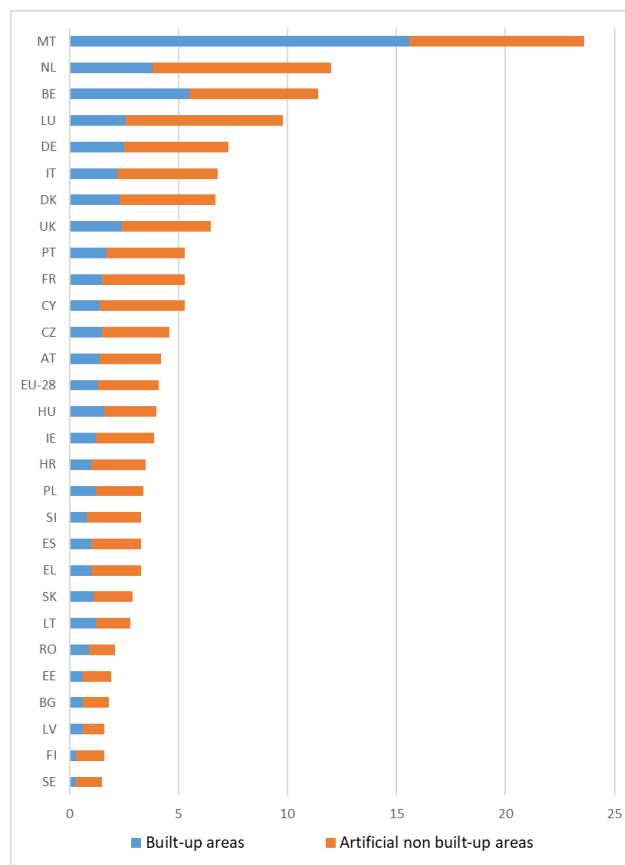
Ireland has reported 66 sites that need or might need remediation or risk-reduction measures. Soil erosion by water is a natural process, but this natural process can be aggravated by climate change and human activities such as inappropriate agricultural practices, deforestation, forest fires or construction works. High levels of soil erosion can reduce productivity in agriculture, and can have negative and transboundary impacts on biodiversity and ecosystem services. High levels of soil erosion can also have negative and transboundary impacts on rivers and lakes (due to increased sediment volumes and transport of contaminants). According to the RUSLE2015 model[43], Ireland has an average soil loss rate by water of

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[39] Artifical 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).
[40] Eurostat, Population density by NUTS 3 region.

[41] Ana Paya Perez, Natalia Rodriguez Eugenio (2018), Status of local soil contamination in Europe: Revision of the indicator "Progress in the management Contaminated Sites in Europe".
[42] Eurostat, Land covered by artificial surfaces by NUTS 2 regions.
[43] 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.

0.96 tonnes per hectare per year (t ha^{-a} yr^{-y}), compared to a European mean of 2.46 (t ha^{-a} yr^{-y}). This indicates that soil erosion is relatively low.

Ireland has an average concentration of soil organic carbon of 127.4 g/kg (across all land cover types) compared to a European mean of 47 g/kg. These estimates were derived from the soil organic carbon measurements made by the LUCAS survey 2009-2012 in the upper 20 cm of topsoil in the EU.

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 the 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)[44] 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.

The Convention for the Protection of The Marine Environment of the North-East Atlantic (the OSPAR Convention) makes an important contribution to Ireland achieving the goals required by the Directive. Member State marine strategies must comprise different steps that are developed and implemented over six-year cycles. The most recent step required Member States to set up and report to the Commission their programme of measures (a list of policy actions a Member State plans to take) by 31 March 2016. The Commission assessed whether the Irish measures were appropriate for making Irish marine waters reach good environmental status (GES)[45].

Ireland's programme of measures did not report any 'new' measures — specifically designed for MSFD purposes. On the contrary, it relies heavily on measures already in place (i.e. measures created by other legal frameworks).

Ireland's measures include a set of 'horizontal', general measures. They range from awareness-raising activities to the implementation of marine spatial plans for all Irish marine waters by 2021.

Ireland's programme of measures addresses the most relevant pressures on Irish marine and coastal habitats. However, it does not fully cover certain pressures and activities or the impacts of these activities. For example, it does not cover impacts on water-column habitats and seabed habitats. Nor does it cover the extraction of other species (seaweed harvesting). Overall, the Irish programme of measures partially addresses the MSFD requirements.

2019 priority actions

- Determine the timelines for achieving good environmental status, when these have not been reported.
- Provide more information about measures. Decide on more measures that directly impact the pressures on marine and coastal habitats. Quantify the expected level of reduction in the pressure as a result of these measures.
- Ensure regional cooperation with Member States sharing the same marine (sub)region to address the leading sources of pressures.
- Ensure reporting of the different elements under the Marine Strategy Framework Directive by the set deadline

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[44] Directive 2008/56/EC.
[45] Commission report assessing Member States' programme of measures under the MSFD (forthcoming publication).

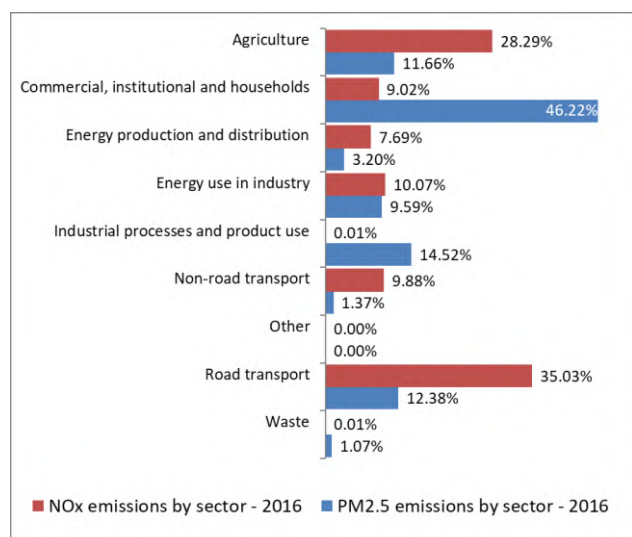# 3. Ensuring citizens' health and quality of life

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[46], which establishes health-based standards and objectives for a number of air pollutants.

In recent years, emissions of hazardous substances to the air have decreased in Ireland[47]. The emission reductions between 1990 and 2014 mentioned in the EIR 2017 continued between 2014 and 2016, with emissions of sulfur oxides (SO_x) falling by 18.47 % and emissions of fine particulate matter ($PM_{2.5}$) falling by 3.67 % over those three years. In the same three-year period, emissions of non-methane volatile organic compounds (NMVOCs) increased by 2 %, emissions of ammonia (NH_3) increased by 7.74 % and emissions of nitrogen oxides (NO_x) increased by 3.59 % (see also Figure 13 on total $PM_{2.5}$ and NO_x emissions per sector). Emissions of ammonia exceeded the specified EU emission limit in 2016 for the first time.

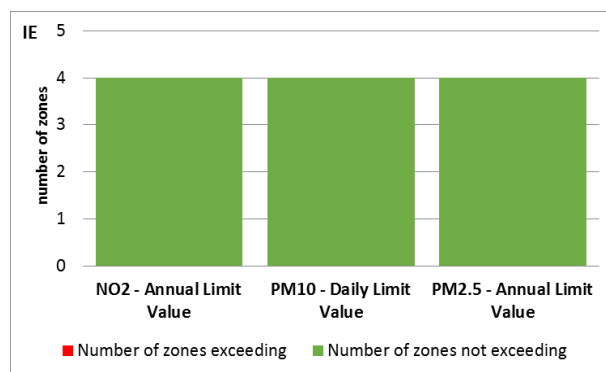**Figure 13: $PM_{2.5}$ and NO_x emissions by sector in Ireland[48]**

Despite these emission reductions, Ireland must make additional efforts to meet the emission reduction commitments set by the new National Emissions Ceilings Directive [49] for 2020- 2029 and for any year from 2030.

Figure 14: Air quality zones exceeding EU air quality standards in 2017[50]

For 2017, Ireland did not report any exceedances above EU air quality standards[51]. At the same time, air quality in Ireland is reported to be generally good, with exceptions. For 2015, the European Environment Agency estimated that about 1 100 premature deaths in Ireland were attributable to fine particulate matter[52] concentrations, 20 premature deaths were attributable to ozone[53] concentrations[54] and 30 premature deaths were attributable to nitrogen[55] dioxide concentrations. The GLOBE project is a citizen-based activity raising awareness of health[56].

According to a special report from the European Court of Auditors[57], 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

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[46] European Commission, Air Quality Standards, 2016.
[47] See EIONET Central Data Repository and Air pollutant emissions data viewer (NEC Directive).
[48] 2016 NECD data submitted by Member State to the EEA.

[49] Directive 2016/2284/EU.
[50] EEA, EIONET Central Data Repository. Data reflects the reporting situation as of 26 November 2018.
[51] See The EEA/Eionet Air Quality Portal and the related Central Data Repository.
[52] 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 anthropogenic sources, including combustion.
[53] Low level ozone is produced by photochemical action on pollution.
[54] EEA, Air Quality in Europe – 2018 Report, p.64. Please see details in this report as regards the underpinning methodology.
[55] 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).
[56] EPA, EPA Citizen Science Initiatives.
[57] European Court of Auditors, Special report no 23/2018, Air pollution: Our health still insufficiently protected, p.41.

both real-time and validated air-quality data to the Commission[58].

See also Figure 14 on the number of air quality zones in exceedance for NO₂, PM₂.₅, and PM₁₀.

Ireland took part in a clean air dialogue with the European Commission on 1-2 March 2017 in Dublin. The main conclusions of the dialogue were that:

1. with the anticipated agricultural growth in Ireland, ammonia emissions will need to be closely monitored;
2. the Irish authorities should be prepared to take short-term and medium-term measures to reduce NOx emissions from the current and future road vehicle fleet;
3. expanding the ban on smoky coal nationwide will reduce health costs from residential solid fuel combustion in Ireland (but it is important at the same time to work towards replacing coal with cleaner and more efficient low-carbon alternatives);
4. the Commission welcomes Ireland's national plan to improve and expand the current monitoring network;
5. societal change will be more effectively achieved when policies are closely coordinated to help create co-benefits.

A TAIEX-EIR P2P workshop was held on 2–3 July 2018 in Bratislava. The workshop was attended by experts from Slovakia, Hungary, Czech Republic, Estonia, Latvia, Lithuania, Germany, Belgium, Poland, Ireland, United Kingdom, Denmark and Bulgaria. At the workshop, experts exchanged knowledge and experience on effective measures and best practice to reduce emissions from domestic heating.

2019 priority actions

- Take action, in the context of the forthcoming National Air Pollution Control Programme (NAPCP), to reduce emissions from the main emission sources..
- Accelerate the reduction of nitrogen oxide (NOx) emissions. This will require, for example, a further reduction in transport emissions,particularly in urban areas(and may require proportionate and targeted urban vehicle access restrictions) and/or fiscal incentives.
- Reduce ammonia (NH3) emissions to comply with currently applicable national emission ceilings, for

example by introducing or expanding the use of low-emission agricultural techniques.
- Reduce emissions of volatile organic compounds (VOC) emissions.

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[59] (IED).

The below overview of industrial activities regulated by the IED is based on the 'industrial emissions policy country profiles' project[60].

Figure 15: Number of IED industrial installations by sector, Ireland (2015)[61]
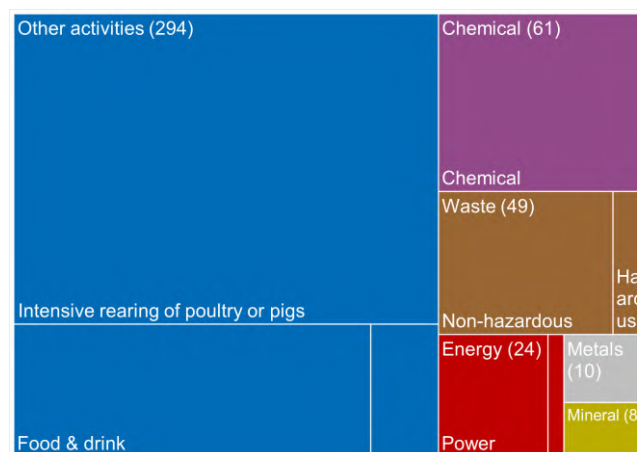
In Ireland, around 445 industrial installations are required to have a permit based on the IED. The industrial sectors in Ireland with the most IED installations in 2015 were intensive rearing of poultry or pigs (46 % of IED installations), followed by food and drink production (17 % of IED installations), chemicals (14 % of IED installations, most of which were for pharmaceutical products) and waste management (11 %

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[58] 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.

[59] 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).
[60] European Commission, Industrial emissions policy country profile – Ireland.
[61] European Commission, Industrial emissions policy country profile – Ireland.

of IED installations). The breakdown of different sectors is shown in Figure 15.

The industrial sectors contributing the largest burden to the environment for emissions to air were:

- energy-power for most pollutants, such as sulfur oxides (SOx), nitrogen oxides (NOx) and heavy metals, such as cadmium, arsenic, chromium, mercury, nickel, and zinc;

- waste management for selected heavy metals such as arsenic and chromium;

- 'other activities' (mostly intensive rearing of poultry or pigs) for non-methane volatile organic compounds.

The breakdown is shown in Figure 16.

Figure 16: Emissions to air from IED sectors and rest of national total air emissions, Ireland (2015)
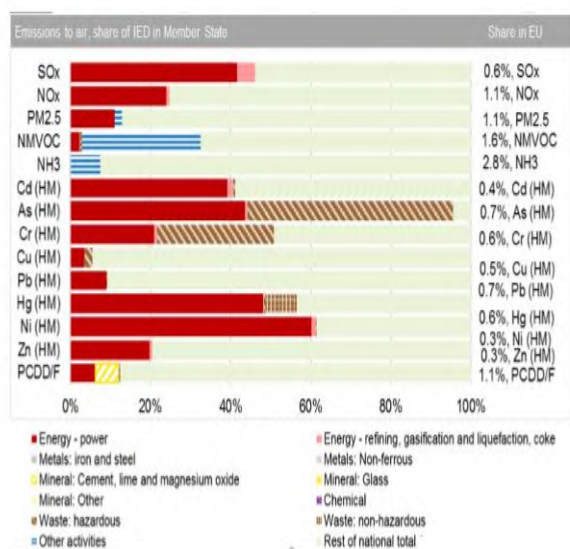
The chemicals industry was identified in the Irish country profile as causing significant environmental burdens from emissions to water and generation of hazardous waste. The country profile said that the waste-management and metal-production sectors made a significant contribution to the generation of non-hazardous waste.

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 good collaboration with stakeholders and a better application of the IED 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 sulfur dioxide will be cut on average by between 25 % and 81 %, nitrogen oxide between 8 % and 56 %, dust between 31 % and 78 %, and mercury between 19 % and 71 % at EU level. The extent of the reduction depends on the situation in individual plants.

The challenge identified in Ireland was related to air pollution from the energy — power sector (use of peat for power generation) and related pressures to use alternative energy sources.

2019 priority actions

- Review permits to ensure that they comply with the newly adopted BAT conclusions.
- Strengthen control and enforcement to ensure compliance with the BAT conclusions.
- Address air pollution from the power sector (use of peat for power generation).

Noise

The Environmental Noise Directive[62] 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[63].

Based on a limited set of data[64], environmental noise causes at least 100 premature deaths and 300 hospital admissions per year in Ireland. Noise also disturbs the sleep of roughly 160 000 people in Ireland. Noise mapping for the reference year 2011 is complete. Ireland's noise action plans for the reference year 2013 are complete. The round 3 noise maps for the reference year 2016, have also been completed and the action plans for the reference year 2018 are being submitted for review.

These instruments, adopted after a public consultation had been carried out, should include the measures to keep noise low or reduce it.

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[62] Directive 2002/49/EC.

[63] WHO/JRC, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephalopoulos, S. (eds), World Health Organization, Regional Office for Europe, 2011, Copenhagen, Denmark.

[64] 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[65] 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

Ireland has adopted and reported the second generation of River Basin Management Plans under the Water Framework Directive albeit with a long delay. The European Commission has therefore not yet conducted an assessment and not been able to assess the status and development since the first EIR report.

Bathing Water Directive

Figure 17 shows that in 2017, out of the 142 Irish bathing waters, 71.8 % were of excellent quality, 12.7 % were of good quality and 8.5 % were of sufficient quality (the figures for 2016 were 72.9 %, 12.9 % and 7.1 % respectively). In 2017, 7 bathing waters in Ireland were of poor quality[66]. Detailed information on Irish bathing waters is available from a national portal[67] and via an interactive map viewer created by the European Environment Agency[68].

Drinking Water Directive

On drinking water, no new EU data are available since the last EIR[69]. However, the Commission is aware of sporadic non-compliance with certain parameters (e.g. trialomethanes) in some water supply zones. The Commission is currently following-up on those issues.

Figure 17: Bathing water quality 2014–2017 [70]
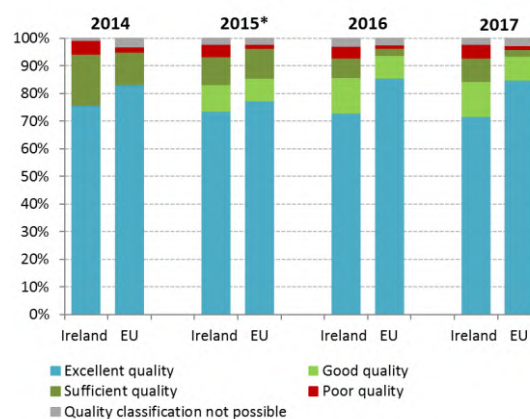
*The category 'good' was introduced in the 2015 bathing water report

Urban Waste Water Treatment Directive

Ireland has encountered difficulties in implementing the Urban Waste Water Treatment Directive. This is partly due to ageing or outdated infrastructure that has not been renewed because of limited investments in the water sector. The Commission launched an infringement procedure against Ireland for this in 2013, and the case is now awaiting judgment in front of the Court of Justice of the European Union. Overall, all waste water is collected in Ireland, but the country reports that 5 % of waste water is dealt with through individual systems. However, only 54 % of the generated load target complies with the requirements of the Directive for treatment. This low compliance rate with article 4 (or secondary treatment requirements) is due to 25 non-compliant agglomerations, including an agglomeration of more than 2 000 000 p.e. Finally, almost half of the agglomerations required to have more stringent treatment systems in place are non-compliant. During 2016, Ireland carried out a review of sensitive areas and taking into account the local situation, updated the parameters that apply for discharges to sensitive areas. The estimated investment needed to ensure appropriate collection and treatment of the remaining agglomerations is EUR 707 million[71]. According to this last report, Ireland is expected to

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[65] 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).
[66] European Environment Agency, European bathing water quality in 2016 , 2017, p. 17.
[67] Beaches.
[68] EEA, State of bathing waters.

[69] Compliance with the Drinking Water Directive microbiological and chemical parameters as last reported was very high.
[70] European Environment Agency, European bathing water quality in 2017, 2018, p. 21.
[71] 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).

complete the final projects necessary for it to be in compliance by 2020, many years after the final 2005 deadline set in the Urban Waste Water Treatment Directive.

In 2016, 2017 and 2018, the European Semester has made country-specific recommendations on Ireland's need to improve water infrastructure.

Floods Directive

New OPW (Office of Public Works) flood map work can be found on the website [72]/

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.

Ireland has adopted and reported its Preliminary Flood Risk Assessments and its Flood Hazard and Risk Maps under the FD. Ireland has also adopted and reported to the European Commission in May 2018 its first Flood Risk Management Plans. The Commission has not yet conducted an assessment of the Plans.

2019 priority actions

- Ensure timely adoption and reporting of River Basin Management Plans as well as Flood Risk Management Plans.
- Ensure compliance with the Urban Waste Water Treatment Directive by ending direct discharges of waste water. Ensure that waste water is collected and appropriately treated throughout the country. Complete water-infrastructure projects for agglomerations that are in breach of the Directive as soon as possible.

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[73] 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[74] that showed that enforcement activities in the Member States are still evolving. Member States cooperate closely within the Forum for Exchange of Information on Enforcement. This dialogue has shown that there is scope to increase the effectiveness of enforcement activities, in particular 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[75].

In March 2018, the Commission published an evaluation of REACH[76]. 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 Health & Safety Authority (HSA) is the main Competent Authority for REACH enforcement in Ireland. It shares responsibility for enforcement with two other bodies: the Environmental Protection Agency (EPA) and the Pesticide Registration and Control Division of the Department of Agriculture, Food and the Marine[77].

The HSA is also the Competent Authority for CLP enforcement. It shares this responsibility with two other bodies: the Pesticide Registration and Control Division and the National Poisons Information Centre of Beaumont Hospital Board.

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[72] Floodinfo.
[73] 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.

[74] European Chemicals Agency, Report on the Operation of REACH and CLP 2016.
[75] European Commission, Monitoring the Impacts of REACH on Innovation, Competitiveness and SMEs, Final Report, 2015.
[76] COM(2018) 116.
[77] ECHA, National Inspectorates – Ireland.

The HSA enforces a wide range of legislation covering workplace safety and health in Ireland through its inspectorate staff. The inspectorate staff is organised according to various specialities, including the safe management and use of chemicals. Enforcement covers a range of activities to ensure compliance, such as providing advice and information, issuing improvement and prohibition notices, and taking prosecutions in the courts. Inspectors of the Health and Safety Authority carry out reactive and pro-active inspections of workplaces. Reactive inspections may arise following an accident, incident or complaint. Pro-active inspections may be routine or targeted.

The Irish Environmental Protection Agency (EPA) is responsible for the prevention of environmental pollution under the REACH Regulation within the State. The HSA and the EPA participated jointly in the REF-4 project. The project involved a total of 5 625 product checks for compliance with 22 REACH restricted substances. A total of 27[78] countries contributed to the project. Results obtained showed an approximately 18% non-compliance rate. The report concludes the main response to address the relatively high non-compliance rate is the promotion of greater vigilance among the relevant economic operators regarding compliance within their supply chains. The report also recommends the continued testing, by market surveillance authorities, of products for compliance with the restricted substances prohibitions.

Additional to the REACH Regulation, the remit of the EPA includes other internal market legislation restricting specified hazardous substances in products and mixtures such as the Restriction on the use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive[79], Batteries Directive[80], Paints Directive[81], Ozone Depleting Substances Regulation[82], F-Gas Regulation[83] and Persistent Organic Pollutants Regulation[84]. The EPA develops and carries out market surveillance programmes and other related activities regarding this legislation. Market surveillance programmes target items for compliance monitoring on a risk-based approach, focussing on products which are consider to pose the most serious risk of non-compliance e.g. as evidenced from past programmes, complaints.

Chemicals play a pivotal role in the Irish economy. They account for over 60 % of goods exported from the country. In Ireland the chemicals industry is dominated by pharmaceutical companies engaged in either active pharmaceutical ingredient (API) manufacturing and/or dosage-form manufacturing. There is a cluster of API plants around Cork — mostly engaged in high- end chemical synthesis. Dublin has a more diverse industry base including chemical synthesis, drug product formulation and biotechnology-based manufacturing (biotechnology-based manufacturing includes fermentation, purification and formulation). Recent investments will make Dublin a leading global cluster for biologics (biopharmaceuticals) manufacturing.

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. The population living in urban areas in Europe is projected to rise to just over 80% by 2050[85]. 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[86], the Green Leaf Award[87] and the Green City Tool[88].

Financing greener cities

Ireland has two operational programmes for regional development funded by the European Regional Development Fund (ERDF). Both of these programmes include a priority to improve sustainable urban development. Ireland has assigned EUR 40 million from the ERDF (or nearly 10 % of its allocation from the ERDF) to sustainable urban development. Ireland has also assigned an additional EUR 84.5 million to develop a low-carbon economy and promote low-carbon strategies for urban areas.

Ireland does not participate in the European Urban Development Network[89]. This network includes more than 500 cities across the EU responsible for implementing integrated actions based on sustainable urban development strategies financed by the ERDF in 2014-2020.

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[78] A total of 29 countries participated however only 27 provided results in a manner allowing their inclusion in the project.
[79] Directive 2011/65/EU.
[80] Directive 2006/66/EC.
[81] Directive 2004/42/CE.
[82] Regulation (EC) No 2037/2000.
[83] Regulation (EU) No 517/2014.
[84] Regulation (EC) No 842/2004.

[85] European Commission, Eurostat, Urban Europe, 2016, p.9.
[86] European Commission, European Green Capital.
[87] European Commission, European Green Leaf Award.
[88] European Commission, Green City Tool.
[89] European Commission, The Urban Development Network.

Participation in EU urban initiatives and networks

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

In 2017, Galway won the European Green Leaf Award. The city was rewarded for: (i) its achievements in improving the major transport corridor to promote buses and bicycles, (ii) drawing up a local biodiversity action plan, and (iii) the city's general biodiversity strategy. The judges also cited Galway's awareness raising campaign to prevent food waste as an example of good practice[90].

Ireland hosted a TAIEX-EIR P2 workshop on 21-22 Feb 2018 in Galway. Cities in the Green Leaf network from Spain, Ireland, Belgium, Portugal and Sweden met to collaborate and share best practice on waste management and the green economy in urban areas.

Nine Irish municipalities are involved in URBACT, an initiative to support sustainable urban development. The initiative is divided into 11 thematic networks[91].

One of the Horizon 2020 network projects has also promoted the sustainability of Irish cities. The CIVITAS project is a network of 80 cities, including four Irish municipalities. Its goal is to promote ambitious, clean urban transport strategies[92].

Irish cities are also actively involved in initiatives such as Eurocities and the EU Covenant of Mayors. 16 Irish cities were signed up to the EU Covenant of Mayors and 9 signatories have submitted their sustainable energy (and climate) action plan[93].

These urban initiatives and networks should be welcomed and encouraged, as they contribute to a better urban environment. In 2016, 7 % of the Irish urban population considered that their residential area was affected by pollution, grime or other environmental problems, down from 6.8 % in 2015 and 6.6 % in 2014. These figures are significantly lower than the average EU-28 levels (18.9 % in 2016, 19.2 % in 2015 and 19 % in 2014)[94].

Nature and cities

13 % of the Natura 2000 network in Ireland is within functional urban areas[95], below the EU average of 15 % (see Figure 18).

Figure 18: Proportion of Natura 2000 network in Functional Urban Areas [96]
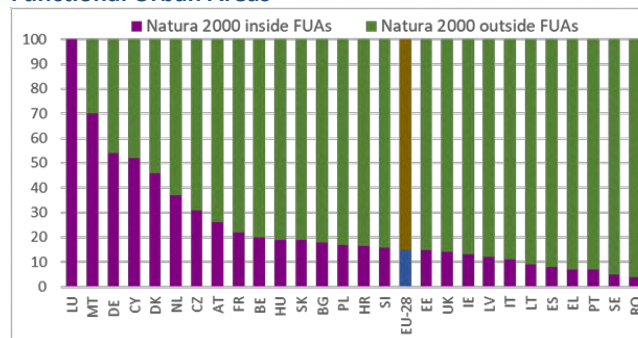
Green infrastructure (GI) initiatives in Ireland are implemented through local government and through local government's development of county development plans and city development plans.

As part of its development plan, Dublin city has set up a green infrastructure network, which is connected to the networks of neighbouring local authorities.

Other examples of local plans integrating GI include the Loughmacask local area plan, drawn up by Kilkenny County and Borough Councils, and the county Wicklow GI development plan strategy[97].

Urban sprawl

Ireland had an average Weighted Urban Proliferation of 1.89UPU/m2 in 2009, an increase of 6.2 % from 2006. This compares to a European average (EU-28+4) of 1.64UPU/m^2 in 2009[98][99].

Traffic congestion and urban mobility

There were 2.68 million road vehicles In Ireland in 2017. This represents an increase of 50 921 vehicles (1.94 %) on

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[90] European Commission, European Green Leaf, Good Practice Report, 2017, pp.22,24,37.

[91] URBACT, Associated Networks by country.

[92] European Commission, Horizon 2020 Civitas Project.

[93] Convenant of Mayors for Climate and Energy.

[94] European Commission, Eurostat, Pollution, grime or other environmental problems by degree of urbanisation.

[95] European Commission, Definition of Functional Urban Areas.

[96] European Commission, the 7th Report on Economic, Social and Territorial Cohesion, 2017, p. 121.

[97] Biodiversity Information System for Europe: Ireland.

[98] Urban Permeation Units measure the size of the built-up area as well as its degree of dispersion throughout the region.

[99] EEA, Urban Sprawl in Europe, Annex I, 2014, pp.4-5.

the previous year[100]. Private cars accounted for 77.5 % of the total number of licensed vehicles in 2016[101].

The average number of hours per year spent in traffic jams rose from 31.49 in 2015 to 33.34 in 2016. Ireland has the sixth-highest number of hours spent in road congestion in the EU[102].

Up until now, Ireland's urban transport policy has mostly encouraged commuters to shift from their private cars to other more sustainable modes of transport, including public transport. In 2017, 251 million passenger journeys were provided by the bus operators Dublin Bus and Bus Éireann, the rail company Iarnród Éireann, and the Dublin tramway Luas. This was an increase of over 16 million passenger journeys, or 7 % compared to 2016.

25 % of people who work in Dublin commute from outside the city and its suburbs. The number of workers commuting to Cork city and suburbs increased by 13.5 % between 2011 and 2016. The number of people commuting into Limerick city and suburbs saw a rise of 13.1 % over the same period. Over 40 % of workers in Cork commuted from outside the urban area. In the city and suburbs of Limerick and Galway city, 50 % of the workforce commutes from outside the urban area.

Ireland invests less in transport infrastructure as a proportion of its GDP than other EU countries, and less than the estimated amount needed to maintain the current system. The investment gaps are in new infrastructure (in particular for public transport), and in the maintenance of the current infrastructure, which is primarily road infrastructure and not adequately resourced. Ireland also has a poorly developed railway infrastructure and the lowest rail electrification rate in the EU (2.7 % in 2015)[103].

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[100] Department of Transport, Tourism and Sports, Bulletin of Vehicle and Driver Statistics.
[101] Central Statistics Office, Transport Omnibus 2016.
[102] European Commission, Hours spent in road congestion annually.
[103] European Commission, Transport in the European Union, Current Trends and Issues, 2018, p. 47.

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.

Ireland's revenue from environmental taxes remains among the lowest in the EU. Environmental taxes in Ireland accounted for 1.75 % of GDP in 2017 (the EU-28 average was 2.4 %) as shown in Figure 19. Energy taxes accounted for 1.08 % of GDP against an EU-28 average of 1.84 %[104]. However, due to the significant impact of multinational companies on Ireland's headline economic figures, the ratios to GDP tend to underestimate the actual contribution of environmental taxes. In the same year, environmental tax revenues were 7.46 % of total revenues from taxes and social-security contributions, higher than the EU-28 average of 5.97 %.

Labour tax accounted for 42.1 % of total tax revenues in 2016. This was below the EU average. The implicit tax burden on labour was 32.7 %[105]. Consumption taxes in Ireland remained relatively low in 2016 (at 33.6 % they placed Ireland 15th in the EU-28). This suggests there is significant potential to shift taxes to consumption and in particular to environmental taxes. The Commission has repeatedly stressed in the European Semester that there is potential for Ireland to improve how its tax system can support environmental objectives[106].

In spite of the low environmental taxes, there are several examples in Ireland of sound fiscal measures on the environment. A good example is the plastic bag levy. Ireland was one of the first countries in the EU to introduce such a levy (2002), and the revenue it raised has been used for administration and environmental projects[107]. Another significant measure is the conservation and sustainable management of salmon through fishing licences. This has reduced the critical depletion of salmon stocks in the country[108].

Figure 19: Environmental tax revenues as % of GDP (2017)[109]
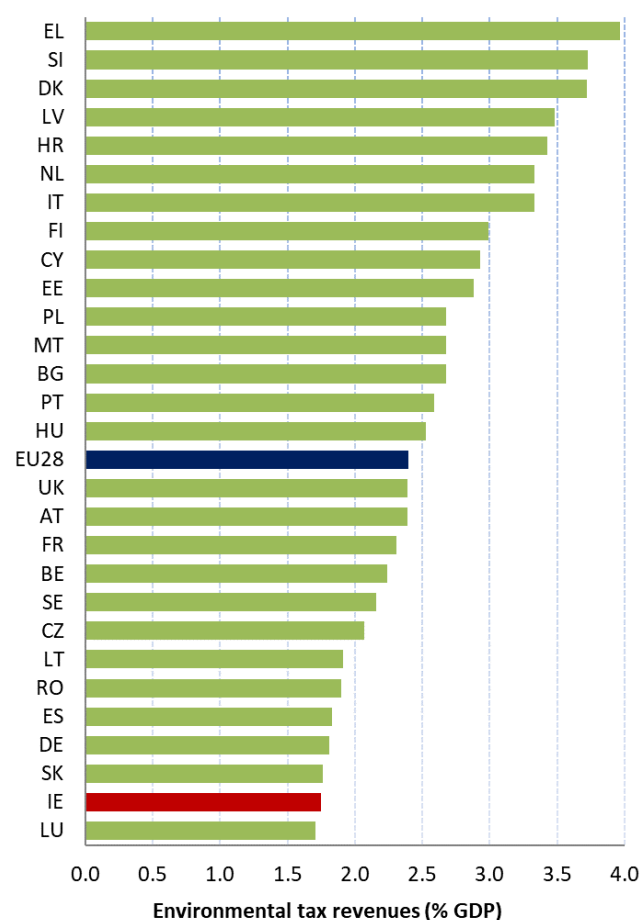
Meanwhile, fossil fuel subsidies showed a considerable increase in the past decade. This was mainly due to the public programmes supporting peat production and consumption (the 'public service obligation' for peat and

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[104] Eurostat, Environmental tax revenues, 2019.
[105] European Commission, Taxation Trends Report, 2017.
[106] European Commission, European Semester Country Report 2018, p. 22.
[107] Institute for European Environmental Policy, Case Studies on Environmental Fiscal Reform, Plastic bag levy in Ireland.
[108] Institute for European Environmental Policy, Case Studies on Environmental Fiscal Reform, Conservation of salmon through fishing licenses.
[109] Eurostat, Environmental tax revenues, 2019.

the solid-fuel carbon-tax exemption for certain uses, among others). The budgetary transfers for peat fuel allowances to low-income households went over EUR 25 million in 2016. Other subsidies and exceptions exist for petroleum, natural gas and coal[110]. These other subsidies and exceptions amounted to EUR 300 million in 2016.

The use of alternative fuels in new passenger cars sold in Ireland has been increasing in recent years. In 2016, the number of new passenger cars using alternative fuels was three times greater than in 2011[111]. The tax treatment of company cars is not a cause for concern in Ireland[112]. Fiscal measures are being extended in 2019 to support the purchase of electric, hybrid and plug-in hybrid cars and vans. The different tax treatment of diesel and gasoline for road use is beginning to be addressed with a 1 % vehicle registration tax surcharge for diesel engine passenger vehicles registering in Ireland[113]. VAT is also deductible for commercial cars registered after 2009 with CO_2 emissions lower than 156 g/km[114]. Other changes to reduce the favourable taxation of company cars would be welcomed.

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[115].

'Green Tenders', the national action plan for green public procurement, was published by Ireland's Department of the Environment in January 2012. The action plan takes the lead role in 'greening' procurement

across the Irish public sector. The government's aim is for GPP to be used for 50 % of procurement by value or 50 % by volume.

Ireland's EPA has drawn up guidance documents for green public procurement in eight sectors[116]. These are:

- road transport vehicles and services
- energy
- construction
- food and catering services
- cleaning products and services
- textiles and uniforms
- office IT equipment
- paper.

A European Parliament study shows that Ireland has partially implemented the GPP national action plan[117]. At present, Ireland does not have a mandatory GPP requirement. However, the government has issued specific recommendations for criteria to be followed when purchasing goods and services in the following sectors: construction, transport, energy, food and catering, textiles, cleaning products, paper and IT equipment.

Work being undertaken as part of Interreg Europe GPP4Growth[118] could be relevant in this context.

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[119]. Use of the European Structural and Investment Funds (ESIFs)[120] 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[121] and the European Fund for Strategic Investments (EFSI)[122]

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[110] OECD, Inventory of Support Measures for Fossil Fuels, 2018.
[111] European Commission, Transport in the European Union Current Trends and Issues, 2018, pp.27-28.
[112] European Commission, Taxation of commercial cars in Belgium, 2017, p.3.
[113] Budget 2019
[114] ACEA, CO_2 based motor vehicle taxes in Europe.
[115] 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.

[116] EPA, Green Procurement: Guidance for the Public Sector, 2014.
[117] European Parliament, Green Public Procurement and the Action Plan for the Circular Economy, 2017, pp. 79-80.
[118] Department of Communications, Climate Action and Environment, GPP4 Growth.
[119] See, for example, Action plan on financing sustainable growth (COM(2018) 97).
[120] 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'.
[121] European Commission, LIFE programme.
[122] European Investment Bank, European Fund for Strategic Investments, 2016.

may also support the implementation and spread of good practices.

European Structural and Investment Funds 2014-2020

Through five national and regional programmes, Ireland has been allocated EUR 3.36 billion from the ESIF for 2014-2020. With a national contribution of EUR 2.77 billion, Ireland has a total budget of EUR 6.13 billion to be invested in various areas, including research and innovation, SME support, the low-carbon economy, and climate change adaptation[123].

Cohesion policy

For 2014-2020, Ireland has been allocated around EUR 1.19 billion in total cohesion policy funding, including EUR 168.8 million for European territorial cooperation and EUR 492 million from the ESF[125]. Ireland is also receiving funding from two ERDF operational programmes (OPs).

These EU funds are a key instrument in protecting the environment in Ireland[126]. Irish investment priorities for 2014-2020 are 'promoting an environmentally friendly and resource efficient economy' and 'supporting the shift towards an energy efficient, low carbon economy'[127]. Although no direct investments in environmental infrastructure are planned in any of this EU funding, both ERDF OPs include the cross-cutting priority 'sustainable urban development'. This cross-cutting priority aims to improve the urban environment, regenerate brownfield sites, reduce air pollution, promote noise reduction and promote sustainable multi-modal urban mobility.

The ERDF environmental allocation for the shift towards a low-carbon economy, the protection of the environment, and the promotion of resource efficiency is around EUR 40 million (EUR 26 million in the southern and eastern regional OP and EUR 14 million in the border, midlands and western OP). In addition, EUR 84.4 million from the ERDF allocation is dedicated to promote low-carbon measures in general in all sectors of the economy.

With the help of the ERDF for 2014-2020, the energy efficiency of more than 33 000 households was improved

by the end of 2016, and more than 1.6 million people now live in areas with integrated urban development strategies.

Administrative capacity in Member States (including human resources, relevant knowledge and skills, systems and tools) is one of the key factors that ensure successful and efficient investment of EU funds. The importance of administrative capacity is well understood in Ireland. Its partnership agreement for the programming period 2014-2020 explicitly refers to the importance of administrative capacity and relevant experience for the administration of European Structural and Investment

Figure 20: ESIF 2014-2020 – EU allocation by theme, Ireland (EUR billion) [124]
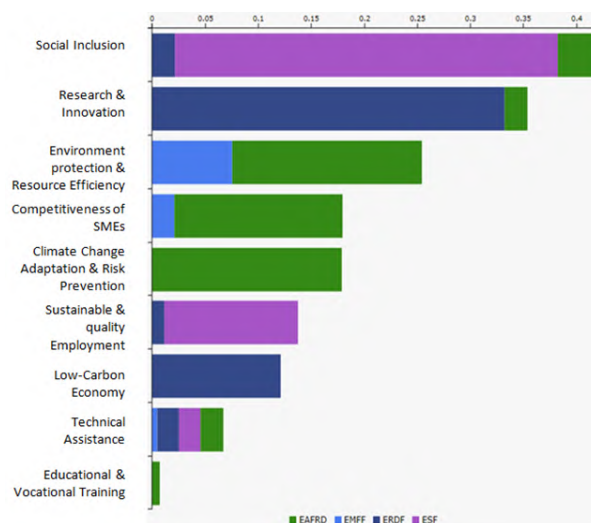
Funds. Furthermore, based on lessons learned in previous programming periods, Ireland aims to ensure that it has sufficient administrative capacity in place in all bodies involved in implementing the ESIF programmes. Ireland also aims to ensure that this capacity can be further reinforced if needed[128]. Ireland also participates in TAIEX REGIO P2P events[129].

According to the Sustainable Governance Index (including economic, social and environmental policies), Ireland is ranked rather high — 14th among 41 countries worldwide (or 10th in the EU)[130] for sustainable governance. According to the Worldwide Governance Indicators, Ireland also scores quite well, except for the political stability indicator which fell from 92 % in 2006 to 77 % in 2016)[131].

Rural development

The rural development programme (RDP) for Ireland was last modified in October 2017. The budget for this

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123 European Commission, European Structural and Investment Funds (County factsheet Ireland), 2017.
124 European Commission, European Structural and Investment Funds Data By Country.
125 European Commission, Cohesion Policy and Ireland, 2014.
126 '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.
127 European Commisison, Summary of the Partnershiip Agreement for Ireland, 2014.

128 Ireland. Partnership Agreement 2014-2020.
129 European Commission, TAIEX REGIO PEER 2 PEER.
130 SGI Network.
131 World bank, Worldwide Governance Indicators.

programme is EUR 2.2 billion. This includes EUR 887 million for agri-environment measures, EUR 27 million for organic farming and EUR 700 million for areas with natural constraints.

There has been an increased focus in the RDP on promoting organic farming to help increase biodiversity, improve water management and prevent soil erosion

Ireland's successful nutrient-management programme (to use fertiliser more efficiently on Irish farms) continues to be developed throughout the country.

European Maritime and Fisheries Fund

Ireland is a marine nation with an operational programme under the European Maritime and Fisheries Fund of about EUR 239 million. It receives around EUR 148 million co-financing from the European Maritime and Fisheries Fund (EMFF)[132]. The EMFF has financed several projects beneficial to the environment, such as support for conventional aquaculture producers to move to organic production, and new technologies to reduce fishing's impact on the environment. EUR 64 million of the EUR 148 million allocation is dedicated to fostering environmentally sustainable, resource-efficient, innovative aquaculture. EUR 5.3 million (3.5 % of the EMFF allocation) will be used on measures to improve knowledge on the state of the marine environment and the level of protection of marine areas. This will be achieved through collection and harmonisation of marine data and the development of marine spatial planning capacities.

The Connecting Europe Facility (CEF)

The CEF is a key EU funding instrument developed specifically to direct investment towards European transport, energy and digital infrastructure to address identified missing links and bottlenecks and promote sustainability.

By the end of 2017, Ireland had signed agreements for EUR 96 million for projects under the CEF[133].

Horizon 2020

Ireland has benefited from Horizon 2020 funding since the programme started in 2014. As of January 2019, 444 participants have been granted a maximum amount of EUR 159.6 million for projects from the Societal Challenges work programmes dealing with environmental issues[134] [135].

In addition to the abovementioned work programmes, climate and biodiversity expenditure is present across the entire Horizon 2020. In Ireland, projects accepted for funding in all Horizon 2020 working programmes until December 2018 included EUR 168 million destined to climate action (24.3 % of the total Horizon 2020 contribution to the country) and EUR 38 million for biodiversity-related actions (5.5 % of the Horizon 2020 contribution to the country)[136].

Certain Horizon 2020 projects aim to create positive environmental impacts. Two such projects that have been implemented in Ireland or with Irish participation are the WATERPROTECT project[137] (which involves farmers and other stakeholders in a drive to reduce water pollution from fertilisers and pesticides), or the SEACHANGE project (which encourages the general public to take direct and sustainable action to protect healthy and biodiverse seas)[138].

LIFE programme

Since its launch in 1992, the LIFE programme has co-financed a total of 58 projects in Ireland. Of these, 38 have focused on environmental innovation and 20 have focused on nature conservation. These LIFE projects represent an investment of EUR 130 million, of which EUR 58 million was contributed by the EU.

For the period 2014-2017, EUR 4 million has been allocated to Irish projects by the LIFE programme[139]. LIFE LESSWATT is one of these projects. It promotes the use of innovative wireless tools for reducing energy consumption and greenhouse-gas emissions in water resource recovery facilities. Ireland asked the EU to make a contribution of around EUR 1 million to this programme[140].

The LIFE programme's environment and resource efficiency sub-programme has co-financed 38 projects in Ireland so far, representing a total investment of EUR 74 million, of which EUR 24 million was provided by the EU. The projects that have been completed mainly focused on integrated environmental management, clean technologies, sensitive-area management (coastal areas), end-of-life vehicle waste, and urban design. There are two projects currently underway in Ireland. The first

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[132] European Commission, European Maritime and Fisheries Fund in Ireland, 2015.
[133] European Commission, European Semester Country Report for Ireland, 2018, p. 14.
[134] 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.
[135] 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.
[136] European Commission own calculations based on CORDA (COmmon Research DAta Warehouse).
[137] European Commission, WATERPROTECT Project.
[138] European Commission, SEA CHANGE Project.
[139] Commission services based on data provided by EASME.
[140] European Commission, LIFE LESSWATT.

project aims to better reconcile tourism development with the conservation of biodiversity in the Burren region. The project will last for 63 months and is being coordinated by Clare County Council. The second project aims to reduce and reuse waste, divert it from landfill, create green jobs, reduce resource consumption, and improve access to innovative ecological education

Figure 21: EIB loans to Ireland in 2018[142]

Investment in EUR million (in 2018)
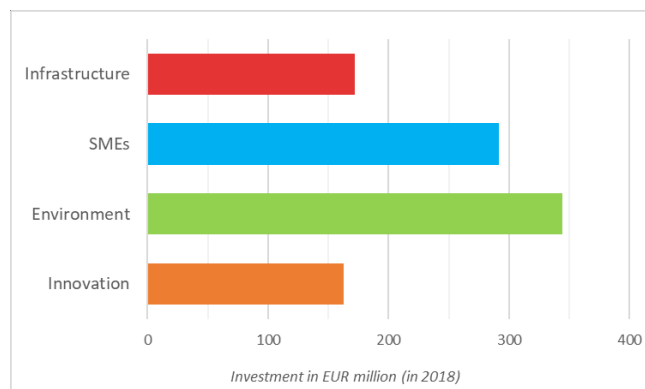
systems. This project will last for 36 months and is being coordinated by the Rediscovery Centre, a social enterprise located in Dublin.

This LIFE programme's nature and biodiversity priority area has also co-financed 20 projects in Ireland. These projects involved a total investment of EUR 56 million, of which EUR 33 million was contributed by the EU.

The projects that have been completed mostly concentrated on the conservation, management and restoration of habitats. They had a specific emphasis on active blanket bogs, raised bogs, farmland and various types of woodland. One of these projects aimed to enhance the conservation status of the Lower Shannon special area of conservation (SAC). In particular, this project focuses on improving conditions for the Atlantic salmon, sea lamprey and European otter. Another project made a significant contribution to halting the loss of biodiversity in Ireland by developing effective methods for controlling highly invasive plant species. This was combined with a programme of stakeholder commitment to publicise the policy.

There are six nature and biodiversity projects currently under way in Ireland. Three are listed below.

- Integrated Resource Development Duhallow is a local development agency in southwest Ireland. It is running a project that aims to improve the Upper Blackwater SAC by promoting the freshwater pearl mussel, Atlantic salmon, European otter and kingfisher. The project plans to achieve this by carrying out actions to restore the quality of the river bed and the river zone.

- Another project is being developed by Coillte

Teoranta, the Irish Forestry Board. This project mainly aims to restore wetland peat-forming conditions on Ireland's raised bogs by continuing to remove plantation forests.

- The LIFE Aran project is based on the Aran Islands off Ireland's west coast. It aims to sustainably manage the priority terrestrial habitats listed in Annex 1 of the Habitats Directive that are on the Aran Islands. The project is being implemented by the Department of Arts, Heritage and the Gaeltacht over a 52-month period starting in September 2013.

European Investment Bank

In 2018 alone, the EIB group (the European Investment Bank and the European Investment Fund) invested EUR 970 million in the Irish economy[141]. Of this, 35 % went to environmental projects, 18 % was invested in infrastructure, 30 % in Irish SMEs and 17 % in innovation and skills. Over the past 5 years (2011-2015) the European Investment Bank (EIB) has invested EUR 3.4 billion in the Irish economy, of which 17 % was for waste, sewage and urban projects.

One of the EIB's projects is of specific environmental interest: the flood protection and prevention programme for the period 2015-2020. Another EIB-funded project is the Irish continuous cover forestry initiative[143], which is backed by the Natural Capital Financial Facility. The Natural Capital Financial Facility was launched by the EIB and the European Commission to better protect natural capital in Europe. The Irish continuous cover forestry initiative is receiving EUR 12.5 million in EIB funding. It will demonstrate how the forestry sector can take better account of the need to safeguard biodiversity, soils and landscape. It will also show how the forestry sector can resist the threats associated with climate change.

European Fund for Strategic Investments

Operations approved in Ireland under the Juncker Plan's European Fund for Strategic Investments (EFSI) represent a total financing volume of EUR 1.3 billion EUR. This is expected to trigger EUR 6.3 billion in investments[144].

As part of the Juncker Plan, the EIB is providing EUR 29 million in financing to the Dasos Fund to help sustain 12 000 hectares of productive forestland in Ireland. This project will deliver many environmental benefits including climate change mitigation and adaptation; improved management of soil and water resources; and protection of biodiversity. With this investment, Ireland

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[141] European Investment Bank: The European Investment Bank in Ireland.
[142] EIB, Ireland and the EIB, 2018.
[143] Irish Continuous Cover Forestry initiative
[144] European Commission, Investment Plan for Europe, Country Factsheet: Ireland, 2018.

hopes to increase its forest area from its current 11 % to a level that is closer to the EU average of 42 %. The EFSI financing of EUR 29 million is expected to trigger EUR 39 million in total investment.

National environmental financing

Ireland spent EUR 927 million on environmental protection in 2016, a 4 % increase from 2015[145]. 1.2 % 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 466.9 million was allocated to wastewater management (50 % of the total), and EUR 69.9 million was allocated to pollution abatement (7.5 % of the total). 28 % of environmental expenditure was allocated to the protection of biodiversity and landscapes (EUR 258.5 million). Between 2012 and 2016, general government funding for environmental protection was EUR 5 billion[146].

The Waste Management Act, passed in 2001, provides for the creation of an Environment Fund[147]. Revenues from the levies on plastic shopping bags and the landfill of waste are paid into the fund. The fund may be used for a range of purposes, such as waste (schemes to prevent/reduce waste, waste recovery activities), protection of the environment (partnership projects involving local authorities to improve the quality of the environment) or education (training to achieve environmental objectives).

In 2016[148], the levy on landfill generated EUR 48.4 million and the plastic bag levy generated EUR 8.7 million. In that year, Ireland spent EUR 36 million from the fund on environment-related actions. These actions included enforcement initiatives and support for research measures by the Irish EPA.

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[145] Eurostat, General Government Expenditure by function, 2018.
[146] Eurostat, General Government Expenditure by function, 2018.
[147] Environmental Fund
[148] Depertment of Communication, Climate Action & Environment, Environment Fund Account 2016.

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[149]. 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[150]. It includes the right to bring legal challenges ('legal standing')[151].

Environmental information

Ireland has a partially centralised approach for disseminating environmental data. 'Ireland's Environment'[152] portal of the Environmental Protection Agency (EPA) contains a broad variety of environmental information. Other beneficial information portals are 'LiveGreen'[153] and Waste Statistics[154]. For chemicals most of the information and monitoring data is found on a separate portal, [155] (also accessible via the main portal). The national Open Data portal https://data.gov.ie/ is also a very useful information source.

The INSPIRE Directive aims to create common rules for environmental data across Europe. Ireland's INSPIRE portal[156] is not connected to the main environmental portal of Ireland's EPA.

Ireland is lagging behind in its implementation of the INSPIRE Directive. Its performance has been reviewed

based on its 2016 implementation report[157] and its most recent monitoring data from 2017[158]. Ireland has made good progress in data sharing and reuse. Additional efforts are needed to improve data identification, documentation of data, and making the data accessible through services. Ireland 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 datasets[159].

Access to spatial data is shown in Figure 22.

Figure 22: Access to spatial data through view and download services in Ireland (2017)
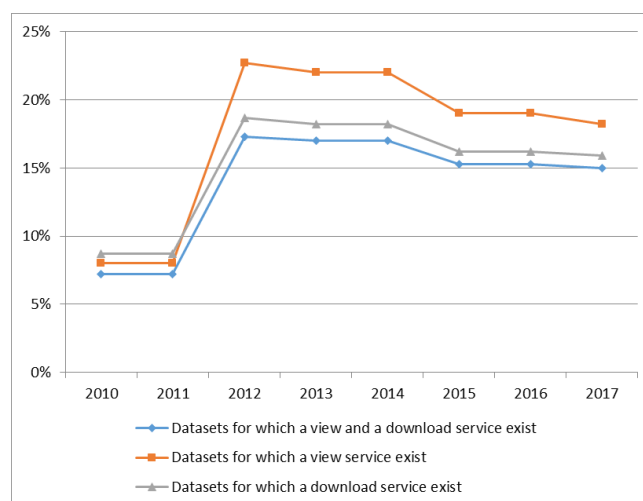
Public participation

Ireland has 71 transposition measures recorded for public participation. This is the second highest number in the EU-28. Ireland has chosen to write public participation requirements into a full range of environmental regulations and procedures, rather than setting out general requirements for public authorities. A detailed explanation of how the requirements of the Aarhus Convention are implemented is provided by the Department of Communications, Climate Action and Environment on its website[160].

Ireland has also established guidelines for consultation[161]. An independent Planning and Appeal Board ('An Bord Pleanála') has created a central portal which allows

[149] 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.
[150] 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.
[151] 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.
[152] Environmental Protection Agency.
[153] www.livegreen.ie
[154] EPA, Waste Statistics.
[155] Health Service Executive.
[156] Government of Ireland, Geoportal.

[157] INSPIRE IE country sheet, 2017.
[158] INSPIRE monitoring dashboard
[159] European Commission, Priority list of datasets for e-Reporting.
[160] Department of Communications, Climate Action & Environment, Implementation Table in respect of Ireland's Implementation Measures.
[161] Department of Public Expenditure and Reform, Consultation guidelines.

members of the public to submit observations on planning applications and appeals on planning decisions[162].

The Eurobarometer figures from 2017 show that Irish people agree very strongly (96 % of respondents) that an individual can play a role in protecting the environment. This figure has remained roughly stable over several years.

Access to justice

Ireland maintains a 'citizen's information' website, which includes information on access to justice in environmental matters. However, this information is incomplete in several areas, for example in relation to cost protection, i.e. protection of claimants from having to pay prohibitive costs if they lose a case.

Ireland maintains an interest-based approach to legal standing, which is generally liberal in environmental matters. Extremely high litigation costs — which can leave litigants owing hundreds of thousands of euros — present a greater barrier to environmental litigation than legal standing. For limited litigation categories, Irish legislation adopted in 2011 provides a form of cost protection. In case C-470/16, *North East Pylon,* the Court of Justice ruled that the requirement that costs not be prohibitively expensive applied to environmental litigation in general, and not just these limited categories. However, Ireland has yet to create a system that ensures that environmental litigants are not exposed to unreasonable costs.

2019 priority actions

- Identify and document all spatial datasets required for the implementation of environmental law, and make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services foreseen in the INSPIRE Directive
- Better inform the public about their rights to access

justice, notably in relation to air pollution and nature.

- Ensure that individuals and environmental NGOs can bring environmental challenges without facing prohibitive costs, including in nature and air quality cases.

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[163]. It includes support measures provided by the authorities, such as:
(i) compliance promotion[164];
(ii) inspections and other checks that they carry out, i.e. compliance monitoring[165]; and
(iii) the steps that they take to stop breaches, impose sanctions and require damage to be remedied, i.e. enforcement[166].
Citizen science and complaints enable authorities to focus their efforts better. Environmental liability[167] ensures that the polluter pays to remedy any damage.

Compliance promotion and monitoring

Online information is given to farmers on how to comply with their obligations on nitrates and nature. The quality of this information is an indicator of how actively authorities promote compliance in areas with serious implementation gaps. The obligations that Irish farmers must fulfil for fertiliser use and manure storage are explained clearly in a handbook available online[168]. Information for farmers and landowners about Natura 2000 is also available online[169], as is a FAQ document[170].

Major industrial installations can present serious pollution risks. Public authorities are required to have plans to inspect these installations and to make individual inspection reports available to the public[171]. The EPA publishes this information. [172]

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[162]An Bord Pleanála.

[163]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.
[164]This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.
[165]This EIR focuses on inspections of major industrial installations.
[166]This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[167]Directive 2004/35/CE, creates the framework.
[168]Department of Agriculture, Food and the Marine, Nitrates Explanatory Handbook.
[169] National Parks & Wildlife Service, Farmers and Landowners.
[170] National Parks & Wildlife Service, Natura 2000.
[171] Article 23, Directive, 2010/75/EU.
[172] Environmental Protection Agency, Environmental Inspection Plan.

Citizen science and complaint handling

Engaging the general public through citizen science can promote knowledge about the environment and help the authorities in their work. The EPA has developed a smart phone app which can be used to report environmental concerns to the correct authority[173]. It also maintains a citizen science web page[174] and has announced that citizen science is a key strategic priority (citizen science is already used to collect data on biodiversity, air quality and radon exposure).

The availability of clear online information about how to make a complaint is an indicator of how responsive authorities are to complaints from the public. The EPA makes it easy for the public to find out online how to submit a complaint.

Enforcement

When monitoring identifies problems, a range of responses may be appropriate. The EPA provides clear information about the results of its inspections in the publication *EPA Industrial and Waste Licence Enforcement*[175]. This includes information on prosecutions and fines in the District Court (the lowest court level). However, Ireland does not publish statistics on administrative and criminal enforcement outside of these subject-areas (for example on wildlife crime).

Tackling waste, wildlife crimes and other environmental offences is especially challenging. It requires close cooperation between inspectors, customs authorities, police and prosecutors – and judges need to know the challenges, too. The EPA has established the Network for Ireland's Environmental Compliance and Enforcement (NIECE)[176]. NIECE brings together all the national authorities involved in checking water and waste-related compliance, and also includes some Northern Irish authorities (to help combat cross-border waste crimes). In addition, a National Waste Enforcement Steering Committee has been established. The Committee determines national waste enforcement priorities and drives consistency at a central level. However, wildlife crime, such as the poisoning of birds of prey, is not similarly addressed. Furthermore, Ireland's judges participate very seldom if at all in awareness-raising events on environmental 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 better information on environmental damage, financial security and guidance.

2019 priority actions

- Better inform the public about compliance promotion, monitoring and enforcement. At a minimum this should involve publishing information on outcomes of administrative enforcement action and of the follow-up to detected cross-compliance breaches on nitrates and nature.
- Provide more information on the practical aspects of co-operation and co-ordination between inspectors, police, prosecutors and others in order to combat environmental crime.
- Improve publication of information on environmental damage.

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.

As mentioned in the 2017 EIR, much of the responsibility for compliance and enforcement lies with approximately 30 small local authorities. The Environmental Protection Agency (EPA) is responsible for licensing and controlling major industrial, waste facilities, waste water discharges, the contained use and controlled release of GMOs, Dumping at Sea activities, the EU Emissions Trading Scheme and sources of ionising radiation. In addition, the EPA co-ordinates environmental monitoring, compiles and reports national data related to greenhouse gas emissions, air pollutants and waste statistics. Since 2003, the EPA has included an Office of Environmental Enforcement[177]. One of the duties of the Office of Environmental Enforcement is to encourage local authorities to better enforce waste rules. Since 2014, Irish Water has full responsibility over water services (both drinking water and waste water) in the country (before 34 local authorities).

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[173] Environmental Protection Agency, See It? Say It!
[174] Environmental Protection Agency, Citizen Science.
[175] Environmental Protection Agency, EPA Industrial and Waste Licence Enforcement Report 2016.
[176] Environmental Protection Agency, Network for Ireland's Environmental Compliance and Enforcement.

[177] The Irish authorities informed the Commission that, in 2015, three waste Enforcement Regional Lead Authorities (WERLAs) were announced, which are tasked with driving further performance improvements by individual local authorities.

Ireland's score in the 2018 Environmental Performance Index is 78.77 and it ranks 9 out of 180.

Coordination and integration

As mentioned in the 2017 EIR, the transposition of the revised Environmental Impact Assessment (EIA) Directive[178] provides an opportunity for countries to streamline their regulatory framework on environmental assessments. Despite a delay in full transposition (the transposition deadline was May 2017), Ireland has now transposed the revised 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[179]. Ireland has started to coordinate its environmental assessments under the EIA and Habitats Directives.

Environmental impact assessments are an integral part of the planning and industrial permitting system in Ireland, which is under the responsibility of the Department of Housing, Planning and Local Government and the industrial permitting system regulated by EPA. While most planning decisions are made by local authorities, the national planning authority, An Bord Pleanála, is responsible for approving applications where an EIA is required (including where the project developer is a state authority). The aim of involving An Bord Pleanála is to ensure greater rigour and consistency. Environmental enforcement bodies include the EPA and Irish Water, and the National Parks and Wildlife Service. The shared competency environmental assessment roles undertaken by the EPA include AA, EIA and SEA[180].

An Bord Pleanála is required by law to consult a number of environmental bodies for EIA decisions. These bodies (so-called statutory consultees) include the EPA, Irish Water, and the National Parks and Wildlife Service. There appears to be good inter-service cooperation between these bodies.

Strategic environmental assessments appear to be relatively well used. Although the government ministry responsible for policy on strategic environmental assessments (the Department of Housing, Planning and Local Government) does not have detailed statistics on its website, the EPA provides data on the notifications of strategic environmental assessments it receives annually. Of a total of 535 notifications received, the majority (384) related to planning and land use, although strategies and plans for water, energy and waste also figured prominently.

Adaptability, reform dynamics and innovation (eGovernment)

The Irish government has drafted an eGovernment strategy[181]. The strategy promotes the 'digital by default' principle, i.e. that government should use digital delivery of services as its preferred option. Although the strategy does not emphasise environmental delivery bodies, there are clear signs that the main bodies involved in environmental policy have an ambitious approach. Examples of electronic services available through the EPA include:

- online applications for permits, including under the EID have been introduced since 2017 with much of the administrative data for processing, enforcement and EU reporting purposes captured electronically;

- a recently announced online Geo tool to provide nature protection data for projects in special protection areas[182]. The bespoke tool was developed by the EPA, in partnership with the National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht;

- public databases of permits, which provide full access to all documents (including documents submitted by third parties);

- information on enforcement activities (site visits, enforcement notices, etc.).

The EU-PACK study shows that Ireland had a relatively high (46 %) level of eGovernment users in 2015, with a sharp rise since 2013. Ireland also ranks in the second quintile of performers on 'digitalisation and service delivery'.

For digital public services, Ireland scored 0.65/1 in Europe's Digital Progress Report 2018. This score is above the EU-28 average of 0.58/1.

Legislation has been proposed by the government to streamline access to judicial review[183] in strategic infrastructure decisions.

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[178] Directive 2014/52/EU.
[179] The Commission issued a guidance document in 2016 regarding the setting up of coordinated and/or joint procedures that are simultaneously subject to assessments under the EIA Directive, Habitats Directive, Water Framework Directive, and the Industrial Emissions Directive, OJ C 273, 27.7.2016, p. 1.
[180] See last panel here: Environmental Protection Agency, Monitoring & Assesment.

[181] Department of Public Expenditure and Reform, eGovernment Strategy 2017 – 2020., 2017.
[182] Environmental Protection Agency, New EPA online tool will assist with nature conservation in Ireland, May 17 2018.
[183] See for example: Irish Legal News, New bill will 'speed up' judicial reviews of infrastructure projects, 7 February 2018.

Further digitisation of services can be expected. It will be driven by three main factors: the rapid increase in eGovernment use in the population, the EPA's apparently successful introduction of a unified permitting and inspections database, and continuing constraints on government expenditure.

The Citizen's Assembly mechanism could potentially be used again, in which case environmental issues appear to fit well with the chair's recommendations, in concluding advice to the Government about the assembly process, that topics could be suitable if they "seek to establish the national mood on an issue", or "seek to begin a conversation about a topic of national importance".

Enabling financing and effective use of funds

Ireland is recognised as making effective use of EU funding[184]. Ireland focused on implementing transport and environmental infrastructure projects; developing human resources; and improving education.

A number of fiscal and market-based instruments for environmental protection are in place. These include the carbon tax, plastic bag environmental levy, fishing licence fees, vehicle excise and new car excise. Revenues from these instruments are allocated to national environmental funds or bodies[185].

2019 priority action

- Ireland 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 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[186]. 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.

Ireland has signed but not yet ratified three agreements under the Convention on Long-range Transboundary Air Pollution: the Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone; the Persistent Organic Pollutions Protocol; and the Heavy Metals Protocol. Ireland has also signed but not yet ratified the Protocol on Strategic Environmental Assessment to the Espoo Convention and the Nagoya Protocol. Ireland has neither signed nor ratified the Helsinki Convention on Industrial Accidents and the Helsinki Convention on Watercourses and Lakes.

Forests: EU Timber Regulation (EUTR)[187]/ Forest Law Enforcement, Governance and Trade (FLEGT) Regulation[188]

In Ireland, only one body owns most of the country's forest. The Irish competent authority has checked this one body and reported that it is satisfied with its procedures. However, Ireland has indicated that there was no estimate of the total number of Irish operators importing timber. From March 2015 to February 2017, Ireland performed all 358 planned checks for operators importing timber. Several enforcement actions have already been taken against those infringing their due diligence obligation, prohibitions or the traceability requirement. These enforcement actions have often included remedial actions and penalties.

On cooperation (Article 12 EUTR), Ireland referred to close cooperation with the competent authority of the United Kingdom, and with operators themselves, who may have feared reputational damage if found in breach of their EUTR obligations.

Genetic resources: Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising (ABS)[189]

Ireland has identified its competent authorities for genetic resources, but it has still not adopted a formal act to designate these competent authorities. Ireland has also not laid down any rules for penalties for crimes involving genetic resources. The Commission sent a letter of formal notice in January 2018.

International wildlife trade: the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[190]

In line with the obligations laid down in the Basic Regulation which transposes the major obligations of the

[184] Coman, Amalia Nicoleta & Coman, Paul, "Ireland: An Example of Best Practices in the Utilization of EU funds," *The AMFITEATRU ECONOMIC journal, Academy of Economic Studies* - Bucharest, Romania, vol. 12(28), (2010), pp. 661-674.

[185] Watkins E., Withana S. and ten Brink P., Capacity building for environmental tax reform — background report for a conference by the European Commission (07.027729/2015/718767/SER/ENV.F.1) and hosted by the Committee of the Regions (5 October 2017). Based on the study by IEEP, *et al*, Institute for European Environmental Policy, Brussels / London, 2017, p. 9.

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

[187] Regulation (EU) No 995/2010.

[188] Regulation (EC) No 2173/2005.

[189] Regulation (EU) No 511/2014.

[190] European Commission, The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) into EU law, Ireland has established relevant national authorities and is processing (requests for) import, (re-) export and intra-EU trade documents on a regular basis.

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 activity of customs authorities.

2019 priority action

- Increase efforts to be party to relevant multilateral agreements, by signing and ratifying multilateral agreements that are not yet signed or ratified.

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.

Ireland's first national strategy for sustainable development was adopted by the Irish government in 1997. For the World Summit on Sustainable Development in 2002, Ireland published 'Making Ireland's Development Sustainable — Review, Assessment and Further Action'.

In June 2012, the government published 'Our Sustainable Future — A Framework for Sustainable Development for Ireland (OSF)'. The OSF takes account of developments at international and EU level designed to deliver an effective transition to an innovative, low-carbon and resource-efficient future.

Ireland submitted a voluntary national review on its implementation of the SDGs in 2018. The voluntary national review describes a process of coordination across government. This process relies primarily on government responsibility, where each government minister has responsibility for the targets which fall within their remit. The Department of Communications, Climate Action and Environment has overall responsibility for implementing the SDGs. It is charged with 'overseeing their coherent implementation across government'. Structures have been established to help with this, including a Senior Officials Group and an SDG Inter-Departmental Working Group. The report notes the importance of local government engagement in implementing the SDGs, but it does not indicate specific mechanisms for achieving this.