EUROPEAN
COMMISSION

Brussels, 15.5.2019
SWD(2019) 181 final

PART 2/2

COMMISSION STAFF WORKING DOCUMENT

Evaluation of the 7th Environment Action Programme to 2020

"Living well, within the limits of our planet"

Accompanying the document

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

on the evaluation of the 7th Environment Action Programme

{COM(2019) 233 final}

Annex 6: Implementation

Introduction

As part of the Commission's assessment of progress made in implementing the 7th Environment Action Programme (7th EAP), the Commission has prepared assessments of the policy areas addressed by the nine priority objectives. The assessments provide an overview of developments and implementation of the 7th EAP and its priority objectives, sub-objectives and actions. They cover main outputs in 32 policy areas (see Annex 5) in terms of: (i) legislation, evaluation, information, improving the knowledge base, implementation; and (ii) indicators of progress. These help with the basic assessment of the link between the EAP structure and the actions and progress made at EU and Member State level.

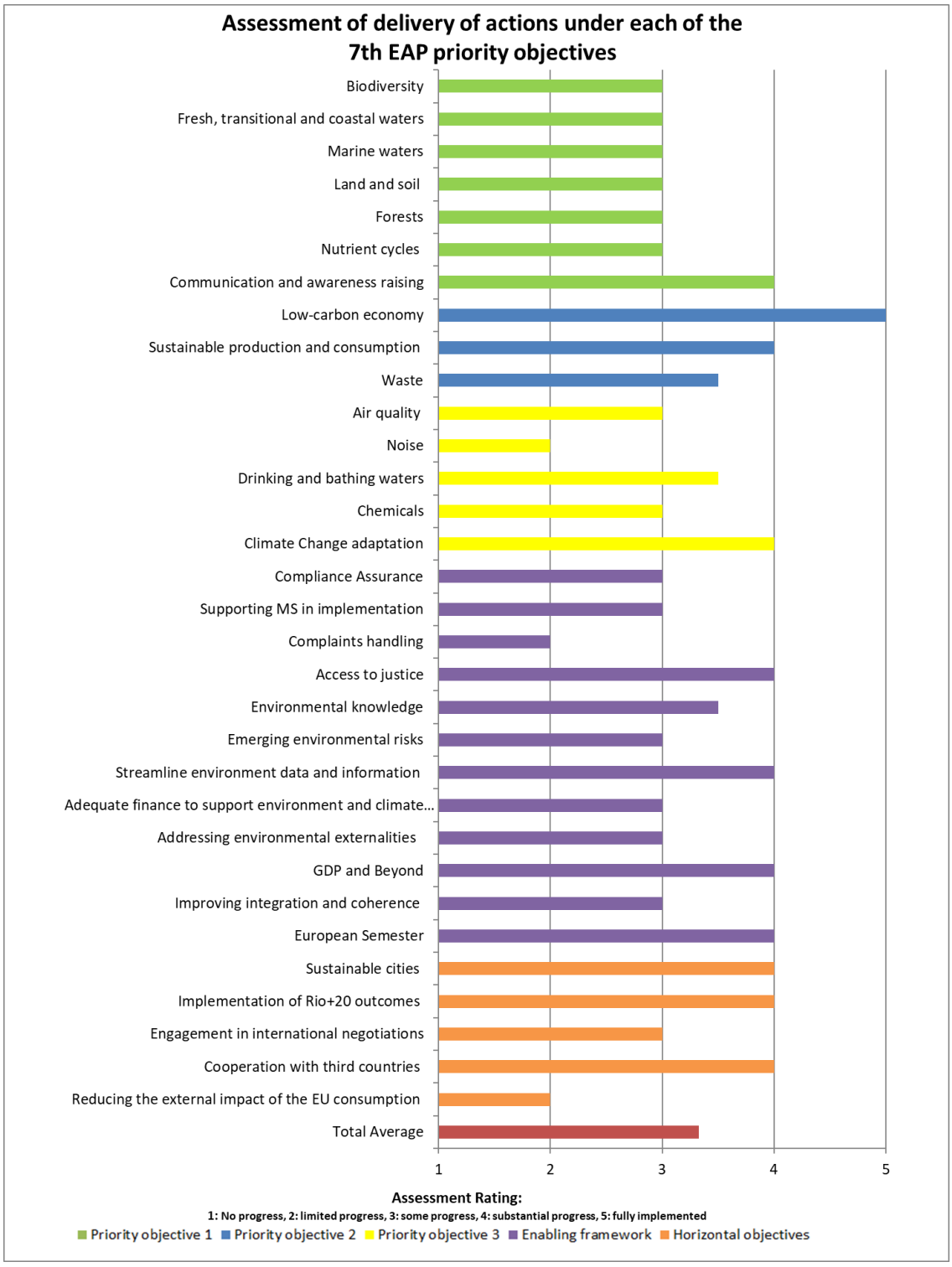
The policy area assessments cover the 36 sub-objectives and 60 actions listed in the 7th EAP (see Annex 4). These sub-objectives and actions share synergies to some extent. Grouping actions around 32 policy areas as reflected in the 7th EAP Impact Assessment therefore provides a meaningful structure to demonstrate the progress made in implementing the overall environmental policy.

The current Annex contains an assessment of the current situation and a short summary with a rough estimate of the progress made on each of the policy areas, listed in Annex 4. A scale ranging from no progress (1) to fully implemented (5) was used, as shown in Figure 1 below. A simple scoring system rates the outputs for each of the policy areas. It is worth bearing in mind that the allocated scores may be subjective.

To gain a better understanding of the link between the policy areas assessed and the actions as outlined in the 7th EAP, the groupings of sub-objectives and actions are presented in text boxes under each of the policy areas. Some of the actions appear under different policy areas as they are interconnected and cannot always be solely attributed to one specific policy area.

In the analysis, the Commission concludes that some progress has been made in achieving the goals. The most progress was made on actions linked to priority objective 2: towards a resource-efficient low-carbon economy. All relevant proposals have been adopted as legislation and we now have binding targets that cover nearly all greenhouse gas emissions in Europe. By contrast, the least progress was made in the policy areas relating to nature protection, environment and health, implementation and integration.

Figure 1: Assessment of delivery of sub-objectives and actions under the 7th EAP priority objectives



1 PRIORITY OBJECTIVE 1: To protect, conserve and enhance the Union's natural capital

1.1 Biodiversity

Sub-objectives: • The 7th EAP shall ensure that by 2020 the loss of biodiversity and the degradation of ecosystem services, including pollination, are halted, ecosystems and their services are maintained and at least 15% of degraded ecosystems have been restored.
Actions: • Stepping up the implementation of the **EU biodiversity strategy** without delay, in order to meet its targets;

Introduction

Under priority objective 1, the 7th EAP sets out the need to step up implementation of the EU biodiversity strategy, which seeks to ensure that by 2020, the loss of biodiversity and the degradation of ecosystem services are halted, ecosystems and their services are maintained and at least 15% of degraded ecosystems have been restored. The six operational targets of the strategy are as follows:

1. Fully implementing the Birds and Habitats Directives
2. Maintain and restore ecosystems and their services
3. Increase the contribution of agriculture and forestry to biodiversity
4. Ensure the sustainable use of fisheries resources and achieve Good Environmental Status by 2020
5. Combat invasive alien species
6. Step up action to tackle the global biodiversity crisis.

The 1992 EU Habitats Directive and the 1979 Birds Directive form the cornerstone of EU legislation aimed at conserving EU nature, and are key instruments for achieving the targets of the EU biodiversity strategy. Target 1 of the biodiversity strategy[1] focuses on their implementation, while there is strong interplay between the actions under the other targets of the strategy and these Directives.

Current situation

The mid-term review of the EU biodiversity strategy in 2015 showed that, while progress had been made between 2011 and 2015 on a number of actions, it was not sufficient to halt the loss of biodiversity in the EU. Some key outputs are outlined below.

Key actions under Target 1: Fully implement the Birds and Habitats Directives

In 2016, the Commission completed a fitness check of the Birds and Habitats Directives[2]. The evaluation concluded that the Directives remain highly relevant for the conservation and

[1] *To halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status so that, by 2020, compared to current assessments: (i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and (ii) 50% more species assessments under the Birds Directive show a secure or improved status*

[2] http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm

sustainable use of species and habitats of EU conservation concern, for the environment, people and the economy, and as an essential component of EU biodiversity policy. However, full achievement of the objectives of these Directives will depend on a substantial improvement in their implementation in close partnership with local authorities and different stakeholders in the Member States. Based on these findings, the Commission adopted in 2017 an action plan for nature, people and the economy[3]. It addresses the shortcomings identified during the evaluation and aims to boost the implementation of the directives and to ensure their coherence with broader socio-economic objectives. The action plan focuses on four priority areas and comprises 15 actions and more than 100 sub-actions to be carried out by 2019.

There has been progress in establishing the Natura 2000 network. The terrestrial component of the network is largely complete (18.4 % of EU land). Within the 7th EAP reporting period, the marine component has more than doubled (9.2 % of EU seas). This has helped the EU achieve the Aichi Target on protected areas under the Convention on Biological Diversity (CBD)[4]. However, important gaps remain, especially offshore, and additional marine Natura 2000 sites need to be designated. There have been significant delays in putting in place the conservation measures necessary to achieve the conservation objectives of the network. Out of 27,758 sites, only 70 % have established conservation measures. Moreover, their implementation on the ground still needs major improvements. The Commission has also used its enforcement prerogatives opening infringement procedures where necessary to speed up completion of the network and the adoption of conservation measures. Access to funding and policy integration remains a major challenge. In addition:

- The Commission has developed guidance documents and disseminated good practice in close cooperation with Member States and stakeholders. A wealth of seminars and networking events have been organised under the Natura 2000 Biogeographical Process[5].
- Under the action plan, the Commission has established bilateral dialogues with Member States and stakeholders to discuss key implementation issues for the Directives.
- The Commission launched the Natura 2000 award[6] in 2014 to reward excellence in managing Natura 2000 sites and to raise awareness about the network and its benefits.
- The LIFE programme provides support to implement the Directives at national level. Funding for nature and biodiversity projects has been increased by 10% for 2018-2020[7]. However, this increase is not enough compared to the needs that can only be satisfied through effective integration into, among other things, agriculture, forestry and fisheries policies at EU and national level.

[3] http://ec.europa.eu/environment/nature/legislation/fitness_check/action_plan/index_en.htm
[4] https://www.cbd.int/sp/targets/
[5] http://ec.europa.eu/environment/nature/natura2000/seminars_en.htm
[6] http://ec.europa.eu/environment/nature/natura2000/awards/index_en.htm
[7] Commission Delegated Regulation (EU) 2018/93 of 16 November 2017 on the increase of the percentage of the budgetary resources allocated to projects supported by way of action grants under the sub-programme for Environment dedicated to projects supporting the conservation of nature and biodiversity according to Article 9(4) of Regulation (EU) No 1293/2013 of the European Parliament and of the Council on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007.

- Substantial progress has been made to strengthen the knowledge base[8].

Key actions under Target 2: Maintain and restore ecosystems and their services

The knowledge and evidence base for EU biodiversity policy on biodiversity and ecosystem services has been improved thanks to the EU initiative on the **Mapping and Assessment of Ecosystems and their Services**[9], which has produced five methodological reports since 2013[10]. An EU wide assessment of ecosystems and their services will be published towards the end of 2019.

Work is under way to design and implement an integrated accounting system for ecosystems and their services at EU level, notably through the Knowledge Innovation Project on Integrated Natural Capital Accounts (KIP INCA)[11].

The Biodiversity Information System for Europe (BISE)[12] serves as a single entry point for access to data and information on biodiversity to help implementing the EU biodiversity strategy.

To steer work on restoring at least 15 % of degraded ecosystems by 2020, a guidance document was drawn up on restoration prioritisation frameworks[13].

In 2013, the Commission adopted an EU strategy[14] to promote investments in **green infrastructure** (GI). Several guidance documents have been produced on GI implementation and integration. The EnRoute project[15] (Enhancing Resilience of **urban ecosystems** through green infrastructure) has provided scientific knowledge on how urban ecosystems and their benefits (the services they provide) can support urban planning and policy-making for sustainable cities. In the period 2016-2018, the EU invested through its research and innovation framework programme Horizon 2020 EUR 150 million[16] in demonstrating and testing innovative nature-based solutions implementing GI.

According to country fiches on green infrastructure[17], several Member States have established national ecological networks or equivalent instruments. These findings will be

[8] For example the EU State of Nature Report with facts and figures on the status and trends of the species and habitats covered by the two EU nature directives: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2015:219:FIN

[9] Mapping and Assessment of Ecosystems and their Services: http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/index_en.htm

[10] MAES-related developments in the European Union: https://biodiversity.europa.eu/maes/maes_countries

[11] http://ec.europa.eu/environment/nature/capital_accounting/pdf/KIP-INCA-ScopingPaper.pdf

[12] https://biodiversity.europa.eu/

[13] http://ec.europa.eu/environment/nature/biodiversity/strategy/pdf/RPF%20letter%20to%20MS%20from%20PB%20April%202014%20Annexe.pdf

[14] COM(2013) 249 final

[15] https://oppla.eu/enroute

[16] Projects Connecting Nature, GrowGreen, UNaLab, URBAN GreenUp, CLEVER Cities, EdiCitNet, proGIreg, URBINAT demonstrate and test innovative Nature-Based Solutions in cities (98.3 million EUR); projects PHUSICOS, RECONECT, OPERANDUM for hydro-meteorological risk reduction (35.2 million EUR); NATURVATION and Nature4Cities explore new governance, business, financing models and economic impact assessment tools for Nature-Based Solutions (15.3 million EUR). Further information on each project: https://cordis.europa.eu/en and https://oppla.eu/

[17] https://biodiversity.europa.eu/countries_old/gi

further developed in a **review of progress made on implementation of the GI strategy** to be published in 2019. **Commission guidance on a strategic framework** will be published in 2019 to further support deployment of **EU-level green and blue infrastructure**.

Moreover, the Commission will provide **guidance on how to better integrate ecosystems and their services into decision-making** in 2019.

In June 2018, the Commission adopted a **Communication on the EU Pollinator Initiative**,[18] which contains 10 actions.

The **Natural Capital Financing Facility**[19] (NCFF) further provides financing (debt and equity) and technical assistance to natural capital projects that can generate revenues or save costs while delivering on biodiversity and climate adaptation objectives. To ensure that the EU budget has no negative impact on biodiversity and that spending under the EU budget helps achieve the EU biodiversity strategy targets, the Commission developed a common framework for biodiversity proofing of the EU budget[20] in 2016.

Key actions under Target 3a: Increase the contribution of agriculture to maintaining and enhancing biodiversity

The common agricultural policy (CAP) has an essential role to play in conserving and improving biodiversity. The current CAP for 2014-20 provides a range of instruments that can help support biodiversity and promote sustainable farming systems through the complementary actions of cross compliance, greening practices and rural development measures together with possible interaction with other initiatives such as the on-going action plan for nature, people and the economy. Local examples demonstrate successful sustainable agricultural practices.

The mid-term review of the EU biodiversity strategy to 2020, issued in 2015, revealed that greater efforts were needed to conserve and improve biodiversity. The review urged Member States to take up these opportunities on a sufficient scale.

In terms of improving direct payments for environmental public goods in the CAP, in 2018 the Commission evaluated the payments for agricultural practices beneficial for the climate and the environment (so called green direct payments or greening measures).[21] The overall effects of the measures were considered fairly limited, but uncertain as the evaluation was carried out after only two years of implementation and thus many changes could not have been detected. The evaluation showed that while Member States have had significant flexibility in implementing the measures, environmental objectives had not been generally a major factor in their choices.

The legislative proposals on the CAP beyond 2020 aim to increase the level of environmental and climate ambition. Three out of nine CAP's objectives relate to the environment and climate. Farmers' income support is already linked to the application of environment and climate-friendly practices and the new CAP will require farmers to achieve a higher level of ambition through both mandatory and incentive-based measures, such as:

[18] http://ec.europa.eu/environment/nature/conservation/species/pollinators/index_en.htm
[19] https://www.eib.org/attachments/documents/ncff_terms_eligibility_en.pdf
[20] http://ec.europa.eu/environment/nature/biodiversity/comm2006/proofing.htm
[21] https://ec.europa.eu/agriculture/sites/agriculture/files/staff-working-document-22.11.2018_en.pdf

- Direct payments will be conditional on enhanced environmental and climate requirements;
- Each Member State will have to offer eco-schemes to support farmers in going beyond the mandatory requirements, funded with a share of their national direct payments' allocations;
- At least 30 % of each rural development national allocation will be dedicated to environmental and climate measures;
- 40 % of the CAP's overall budget is expected to contribute to climate action;
- In addition to the possibility to transfer 15 % between pillars, Member States will also have the possibility to transfer an additional 15 % from Pillar 1 to Pillar 2 for spending on climate and environment measures (without national co-financing).

The legislative proposals on the CAP shift the emphasis from compliance and rules towards results and performance and, if adopted, thus provide new opportunities. The EU aim is to create a strong and common framework that defines the basic policy parameters for the whole CAP while providing Member States with more subsidiarity on how to achieve their agreed objectives and targets in order to better deliver the desired results especially for the environment.

Key actions under Target 4: Sustainable fisheries

See Section 1.3 on marine waters.

Key actions under Target 5: Help combat invasive alien species

Regulation (EU) 1143/2014 on invasive alien species (**the IAS Regulation**)[22] entered into force on 1 January 2015. It equips Europe with an effective system to prevent and manage the introduction and spread of species that can have significant adverse impacts on biodiversity, the related ecosystem services, as well as the economy and human health.

As provided for in the Regulation, invasive alien species have been prioritised in a list of invasive alien species in the EU. It currently includes 49 species that are subject to common action at EU level. Member States are currently developing measures on priority pathways. The European Alien Species Information Network[23], an information exchange mechanism that helps implement the Regulation has been established. It enables easy access to data on alien species reported in Europe.

Key actions under Target 6: Efforts to help avert global biodiversity loss

Table 1: EU global funding for biodiversity

Total EU biodiversity international financing (ODA, OOF)[24] in EUR billion						
2006-2010 Average	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
173.0	125.9	396.9	319.3	239.0	365.2	427.2

The EU and its Member States collectively are the largest contributor to **biodiversity-related official development assistance** and have made a significant and growing contribution to the collective global target of doubling biodiversity financing in line with international

[22] http://ec.europa.eu/environment/nature/invasivealien/index_en.htm
[23] https://easin.jrc.ec.europa.eu/easin
[24] Official development aid (ODA); other official flows (OOF).

commitments. The Commission is working to further integrate environment and climate change across all sectors of EU development cooperation. In addition, the Commission also made efforts to make spending on biodiversity-related research more visible by tagging biodiversity related topics. Regularly updated figures can be retrieved from spending visualisation tools, such as Horizon 2020 Dashboard[25].

The EU used its new role as a Party in its own right to the **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES – see below, Section 9.3) to reinforce the importance of international trade as a driver of biodiversity loss. For instance, the 17th Conference of the Parties to CITES in 2016 adopted several EU proposals to include additional animals and plants in the list of species protected under the Convention, thereby submitting international trade in those species to strict controls, and in case of the most endangered species (e.g. pangolins) prohibiting commercial trade altogether. The EU also initiated important CoP decisions on the implementation of CITES, including on hunting trophies and on corruption associated with illegal wildlife trade. Further proposals have been submitted by the EU in preparation for the 18th Conference of the Parties in 2019.

The **Convention on the Conservation of Migratory Species of Wild Animals (CMS)** contributes to biodiversity conservation in the EU, by ensuring international cooperation for shared populations of species. EU species, which are protected under the Birds or Habitats Directive are thus also protected when they migrate outside of EU territory if they are protected under CMS. The 12th meeting of the Conference of the Parties (Manila, October 2017) adopted 34 proposals to amend the Convention's appendices, including nine species that occur in the EU.

The Conferences of the Parties to the **Convention on Biological Diversity** (CBD) have adopted key decisions to reduce biodiversity loss, in particular on **mainstreaming** biodiversity in agriculture, forestry, fisheries, aquaculture and tourism (cf. 13th meeting in 2016) extended to mining, infrastructure, energy, manufacturing and health (CBD COP14 in 2018). An ambitious preparation process for a post-2020 global biodiversity framework was launched in 2018, with a Sharm el Sheikh to Kunmin Plan of Action, calling stakeholders to make commitments to halt biodiversity loss.

In 2014, the EU ratified the Nagoya Protocol on **access to genetic resources and the fair and equitable sharing of benefits** arising from their utilisation to the CBD. The Protocol implements the third objective of the CBD, **namely the fair and equitable sharing of benefits** arising out of the utilization of genetic resources, thereby contributing to the conservation of biological diversity and the sustainable use of its components. To implement the Protocol, the EU adopted Regulation (EU) No 511/2014 on measures of compliance for users of genetic resources in the EU. An implementing regulation (Regulation (EU) 2015/1866) was also adopted to lay down detailed rules to implement the Regulation as regards a register of collections, monitoring user compliance and best practice.

To enhance the contribution of **trade policy** to conserving global biodiversity and to address potential negative impacts, the Commission has taken steps to include these concerns in trade negotiations and dialogues with third countries. It published its second report on the effects of

[25] https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard

the Generalised Scheme of Preferences (GSP)[26] in January 2018. All recent EU trade agreements contain trade and sustainable development chapters with biodiversity provisions.

The **EU Action Plan against Wildlife Trafficking**[27] will help address wildlife trafficking within the EU and strengthen the EU's role in the fight against these illegal activities globally through measures under three priority areas: prevention, enforcement and cooperation. By reducing illegal trafficking, and disrupting the international criminal networks involved, the EU contributes to improving governance, law and order, security and ultimately livelihoods in the source countries.

In 2018, a Commission report on progress in the implementation of the Action Plan[28] found that it had contributed to directing additional attention and resources to the fight against illegal wildlife trade, in the EU as well as globally, while also concluding that a lot still remained to be done to achieve the objectives of the Plan.

Significant progress has been made in implementing the **EU FLEGT action plan**[29], which dates back to 2003. The action plan provides for a combination of supply and demand-side measures to exclude illegal timber from markets, improve the supply of legal timber and increase the demand for wood products from legal sources. Its ultimate goal is to encourage sustainable forest management by improving forest governance frameworks and ensuring that the legality of forest operations is considered a vital first step. A key element of the FLEGT action plan is the possibility for the EU to conclude **Voluntary Partnership Agreements** (VPAs). Negotiations are ongoing with a number of countries and Indonesia is the first country that started issuing FLEGT Licenses on 15 November 2016. To complement the FLEGT VPAs, the EU has legislation in place laying down the obligations of operators who place timber and timber products on the market, also known as the **EU Timber Regulation** (TR). The European Commission is monitoring how Member States are implementing and enforcing the EU Timber Regulation. Reports on its effectiveness are being compiled by the Commission from reports by Members.

To complement the FLEGT VPAs, the EU has legislation in place laying down the obligations of operators who place timber and timber products on the market, also known as the **EU Timber Regulation**. Under the framework of the FLEGT action plan the EU has also been promoting public procurement policies as a means to encourage trade in sustainable and verified legal timber (eleven EU Member States have adopted timber public procurement policies), and private sector initiatives (voluntary codes of conduct, procurement policies, chain-of-custody/certification initiatives, etc.).

On the basis of a feasibility study on deforestation[30] and discussions with stakeholders, the Commission is considering further steps towards a possible future EU international forest

[26] http://ec.europa.eu/trade/policy/countries-and-regions/development/generalised-scheme-of-preferences/index_en.htm.

[27] Adopted in 2016, see COM(2016) 87 of 26.2.2016, and subsequently endorsed by the Member States and the European Parliament

[28] COM(2018) 711 of 24.10.2018

[29] http://www.euflegt.efi.int/flegt-action-plan

[30] http://ec.europa.eu/environment/forests/studies_EUaction_deforestation_palm_oil.htm

strategy[31], including an action plan or other suitable instrument containing measures to tackle deforestation and forest degradation[32].

In parallel to the feasibility study, the Commission launched a dedicated study on the environmental impact of palm oil consumption and on existing sustainability standards with a view to strengthening the knowledge base on this subject.[33]

For FLEGT, the Timber Regulation, VPAs and EU Action on deforestation, see also section 9.4 on *Reducing the external impact of the EU consumption*.

Key horizontal actions

The voluntary scheme for Biodiversity and Ecosystem Services in Territories of European Overseas (**BEST**)[34] allows for swifter and easier access to funding for the protection of biodiversity and the sustainable use of ecosystem services in EU Outermost Regions (ORs) and Overseas Countries and Territories (OCTs).

To support businesses in understanding and taking into account their impacts and dependencies with natural capital and biodiversity, the Commission created the EU B@B platform for **Business and Biodiversity**[35].

The Commission also adopted the partnership instrument project for implementing the economics of ecosystems and biodiversity (TEEB) initiative in the agrifood sector work in emerging economies "*Promoting biodiversity and sustainability in the agriculture and food sector through economic valuation"* (TEEB implementation)[36].

Are we on track to meet the 7th EAP's objectives and sub-objectives?

Overall, biodiversity loss and the degradation of ecosystem services in the EU have continued since the EU 2010 biodiversity baseline was established, The European Environment Agency's 2015 - state and outlook report confirmed this[37]. The mid-term review of the EU biodiversity strategy showed that the 2020 targets were unlikely to be met. Overall, while good progress has been made in particular with regard to strengthening the policy frameworks and the knowledge base under most targets, this is still insufficient to reverse the trends of biodiversity loss.

- Regarding the contribution of agriculture and forestry to maintaining and enhancing biodiversity (Target 3), data on the ground indicate a general declining trend in biodiversity in agro-ecosystems, while assessment of greening and of the uptake of biodiversity measures suggest that their deployment would not be sufficient to change the negative trends.

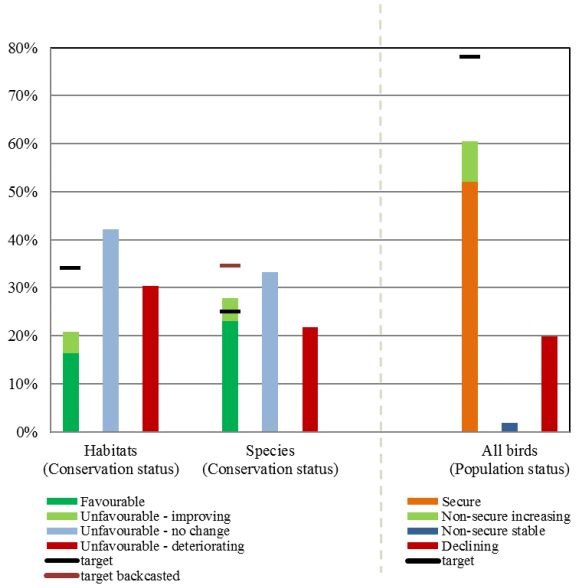
[31] https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-6516782_en
[32] *Forests - Deforestation: Forests and the planet's biodiversity are disappearing,* http://ec.europa.eu/environment/forests/deforestation.htm
[33] http://ec.europa.eu/environment/forests/studies_EUaction_deforestation_palm_oil.htm).
[34] http://ec.europa.eu/environment/nature/biodiversity/best/index_en.htm
[35] http://ec.europa.eu/environment/biodiversity/business/index_en.htm
[36]https://ec.europa.eu/fpi/sites/fpi/files/ann-6-action-fiche-for-promoting-biodiversity-and-sustainability-in-the-agriculture-and-food-sector_en.pdf
[37] https://www.eea.europa.eu/soer

- Implementation of Target 5 on invasive alien species should lead to the containment of the introduction and spread of the species of Union concern, and thus contain their negative impact on biodiversity. Member States are developing measures on priority pathways, which will reinforce the prevention of the introduction and spread of invasive alien species of Union concern.

- Assessments of global trends also point to continuing biodiversity loss, with serious implications for the capacity of biodiversity to meet human needs in the future.

Figure 2 illustrates progress as of 2015 toward achieving the set targets to 2020 of the strategy for improving the conservation status of the protected habitats and species.

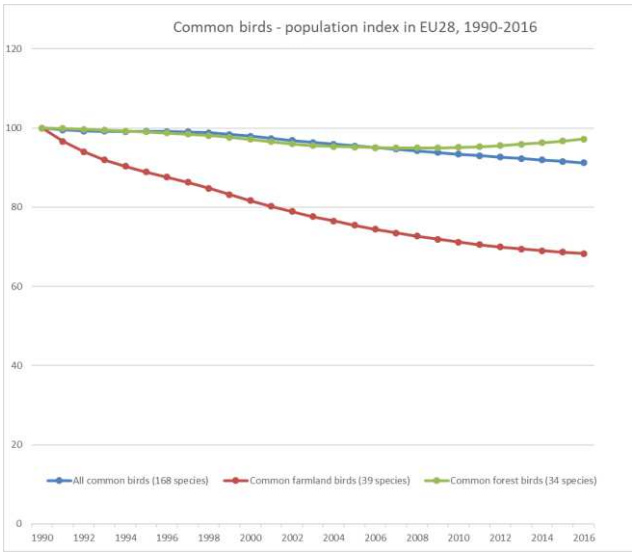
Figure 2 — Progress towards Target 1 of the EU Biodiversity Strategy



Common bird populations have decreased by around 13% in the EU between 1990 and 2014. The decline is most drastic amongst common farmland bird populations, as illustrated in Figure 3.

Figure 3: Long term trends for common bird species, EU[38]

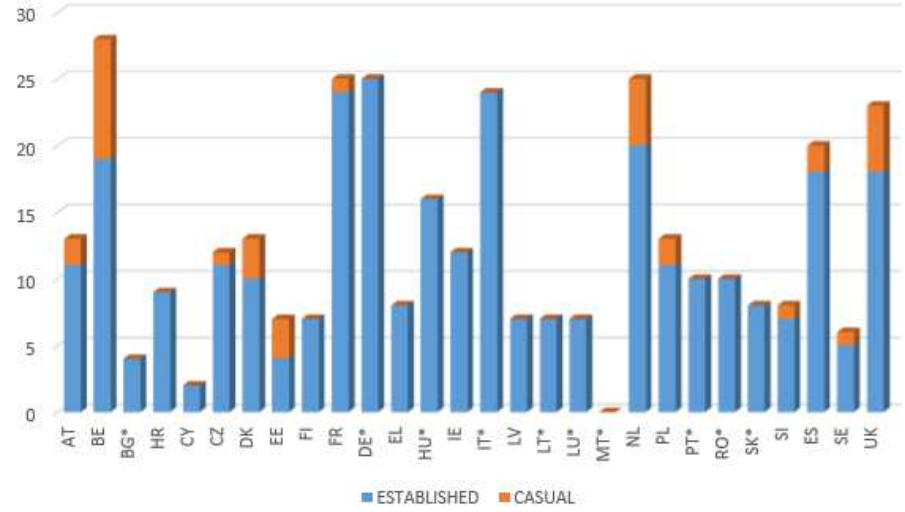
[38] https://www.eea.europa.eu/airs/2017/natural-capital/common-birds-and-butterflies



There was also a significant decline of 32% in grassland butterflies between 1990 and 2015.[39]

The cumulative number of invasive alien species introduced in terrestrial environments in Europe has been constantly increasing since the 1900s.[40] This trend indicates that the problem is far from under control. The report published by the Joint Research Centre (JRC) in 2017 on the baseline distribution of invasive alien species of Union concern[41] shows that many invasive alien species are already established in Member States (Figure 4).

Figure 4: Number of invasive alien species of Union concern per Member State



Summary

State of implementation of the policy area
☐ No progress

[39] https://www.eea.europa.eu/airs/2017/natural-capital/common-birds-and-butterflies

[40] https://www.eea.europa.eu/data-and-maps/indicators/invasive-alien-species-in-europe/invasive-alien-species-in-europe

[41] http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104969/kj-na-28596-en-n.pdf

☒ Limited progress
☐ Some progress
☐ Substantial progress
☐ Fully implemented

The 7th EAP aimed to step up implementation of the EU biodiversity strategy in order to meet its targets. The 2015 mid-term review showed that the 2020 biodiversity targets could only be achieved if implementation and enforcement efforts were stepped up. It concluded that achieving the 2020 biodiversity objectives would require strong partnerships and the full engagement and efforts from key actors at all levels. Achieving this target also requires more effective integration with a wide range of policies, by setting coherent priorities underpinned by adequate funding — in particular in the sectors of agriculture and forestry.

A number of key actions have been taken since then, such as: the Action Plan on Nature, People and the Economy; the EU Pollinators Initiative; measurement and assessment of ecosystem services. Contributions from the private sector have been promoted through the EU Business & Biodiversity Platform, and the first projects under the Natural Capital Financing Facility are being implemented, demonstrating the attractiveness of natural capital related projects to private investors. The Commission also contributes to international initiatives such as the Natural Capital Protocol that aims to help mainstream natural capital in the financing and business sectors.

The evaluation of the EU biodiversity strategy will be concluded by end of 2020. The 15th Conference of the Parties to the Convention on Biological Diversity in Beijing, China at the end of 2020 is expected to adopt the new post 2020 global biodiversity framework and provide a major opportunity to enhance global action for averting the increasing global biodiversity crisis, a pre-requirement for achieving most Global Agenda 2030 Sustainable Development Goals.

Challenges identified in the mid-term review regarding implementation, integration and funding remain for the forthcoming years. Regarding integration in agriculture, which was identified as a key issue in the mid-term review, the Commission's proposals on the CAP aim to bolster climate and environmental ambition. The Commission's proposals on the next Multi-annual Financial Framework also include increased funding for LIFE, which will also benefit biodiversity, as well as new Strategic Nature Projects, which will help mainstream biodiversity in other instruments.

1.2 Fresh, transitional and coastal waters

Sub-objectives:

- The impact of pressures on transitional, coastal and fresh waters (including surface and ground waters) is significantly reduced to achieve, maintain or enhance good status, as defined by the **Water Framework Directive**;
- Water stress in the Union is prevented or significantly reduced.

Actions:

- Fully implementing the **Blueprint to Safeguard Europe's Water Resources**, having due regard for Member States' specific circumstances, and ensuring that water quality objectives are adequately supported by source-based policy measures;

- Improving **water efficiency** by setting and monitoring targets at river basin level on the basis of a common methodology for water efficiency targets to be developed under the **Common Implementation Strategy process**, and using market mechanisms, such as **water pricing**, as provided for in Article 9 of the Water Framework Directive and, where appropriate, other market measures. Developing approaches **to manage the use of treated wastewater**.

Introduction

Water is at the heart of natural ecosystems and climate regulation as well as a crucial element in citizens' daily life and an indispensable resource for the economy. Protection of water resources, of fresh and salt water ecosystems and of the water we drink and bathe in is therefore one of the cornerstones of environmental protection in Europe.

The EU Water Framework Directive (WFD), which was adopted in 2000, takes a pioneering approach to protecting water based on natural geographical formations: river basins with the target of increasing the quality of all European waters. Economic activities, population growth and urbanisation are putting increasing pressures on freshwater throughout Europe.

Achieving, maintaining or improving the good status of water bodies as defined by the Directive will ensure that EU citizens benefit from high quality standards e.g. for safe drinking and bathing water. It will also prevent and reduce water stress in the EU by ensuring a balance between groundwater abstraction and recharge.

Current situation

The Water Framework Directive is the most comprehensive EU water policy instrument. Its main objective is to protect and improve freshwater resources with the aim of achieving good status of EU waters by 2015. The main tools to implement the Directive are the river basin management plans (RBMPs) and the programmes of measures that are made in six-year cycles.

A river basin or a catchment covers the entire river system, from the sources of small tributaries to the estuary. The EU and its Member States have divided the river basins and associated groundwater and coastal areas into 110 river basin districts, 40 of which are international and cross borders, covering around 60 % of EU territory. All EU Member States apart from islands like Cyprus and Malta share waters with neighbouring countries.

The RBMP describes the actions needed to implement the Directive. The RBMPs cover many aspects of water management and identify all actions and measures to be taken within the river basin district in order to deliver the objectives of the Directive. This includes non-deterioration of water status and the achievement of good status in all water bodies, unless an exemption is applied.

A common implementation strategy is used to realise the Water Framework Directive and its 'daughters' as well as the Floods Directive. It consists of a large network of Member State and stakeholder representatives (associations, business representatives, NGOs etc.). Support has been developed under the CIS, including Guidance Documents and technical reports.

The fifth Water Framework Directive Implementation Report – assessment of the second River Basin Management Plans and the first Floods Directive Implementation Report –

assessment of the first Flood Risk Management Plans as adopted in February 2019[42], covering the period 2009-2015. Overall, substantial efforts were made to implement the WFD and compliance is increasing gradually. In many river basins districts, optimism is warranted, in light of the policy and financial investments that have been made. However, improvements in water quality will still take some time before they are noticeable. While a large majority of groundwater bodies have achieved good status, only a minority of surface water bodies have achieved this status even though trends in several underlying individual quality elements and individual substances are more positive.

The European Environment Agency's State of Water report 2018 and the underlying data provide detailed information on the status of Europe's water bodies, as reported by the Member States under the Directive.

- Of the different types of water bodies recognised by the Directive, groundwater bodies generally have the best status across Europe. Groundwater must have good chemical status and good quantitative status. This has been achieved for 74% and 89% of the groundwater area respectively.

- For surface waters (rivers, lakes, transitional and coastal waters) the percentage in good ecological status or with good potential is around 40%, while only 38% of surface waters are in good chemical status. Few individual pollutants have a large impact on status; mercury is still widely present despite global action and greater EU efforts to limit its impact on the environment.

- Only a limited number of European water bodies have improved their status since the last reporting period. There may be several reasons for this: late identification of pressures, time required to develop and implement policy measures, response time before measures take effect in the natural environment, but also stricter quality standards and improved reporting. which reveals that water bodies that previously had 'unknown' status now havein insufficient status.

- While water bodies with good status remained more or less stable in general, some 20% of all water bodies in the EU improved in status, often by one 'class[43]', and sometimes by two or three classes.

The improved implementation of related legislation has also had a positive effect on water status: the Urban Waste Water Treatment Directive (UWWTD) also currently being evaluated), the Nitrates Directive, the Industrial Emissions Directive (EID) also currently being evaluated) and legislation in relation to chemicals. For example, sectors within the scope of the Industrial Emissions Directive account for a considerable share of overall pollution (emissions to air and water waste generation) in Europe. It is estimated that they represent 20 % to 40 % of heavy metal emissions and 30 % to 60 % of pollutants other than nutrients and organic carbon in water.

[42] Report on the implementation of the Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC), COM (2019) 95

[43] Ecological status has five classes: high, good, moderate, poor and bad. Chemical status has two: good or fail.

Nevertheless, European waters remain under pressure from pollution, over-abstraction and change in structure from a range of human activities. A lot still needs to be done to fully achieve the objectives of the Directive and related Directives, in particular significant implementation efforts by Member States in the years to come[44]. The path towards full compliance with the Directive's objectives in 2027, after which exemption possibilities are limited, seems very challenging at this stage. Reporting shows that further measures will be taken until 2021, but also that a significant number of measures will be needed beyond 2021.

With regard to water efficiency, the European Commission proposed on May 2018 new rules to stimulate and facilitate water reuse in the EU for agricultural irrigation. Treated waste water from urban waste water treatment plants provides a reliable alternative water supply for various purposes. Among these, agricultural irrigation holds the highest potential for an increased uptake of water reuse. In this light, the proposal envisages the setting of harmonised minimum requirements on the quality of reclaimed water, accompanied by monitoring together with harmonised risk management tasks. It is estimated that the proposed instrument could facilitate the use of water reuse in agricultural irrigation in the magnitude of 6.6 billion m3 per year, compared to 1.7 billion m3 per year in the absence of any EU legal framework.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The EU legislative framework on water is strong and provides an integrated framework for improving water quality and quantity at the level of river basin districts through the Water Framework Directive. To make further progress on achieving the objectives of both Directives, the Commission will continue to work with Member States and stakeholders to promote compliance as part of the common implementation strategy and, more broadly, also through the Environmental Implementation Review. Against this background, the Commission will continue to support implementation of the legislation providing guidance, facilitating exchanges between Member States and stakeholders, providing knowledge and science, and making finance available through different EU instruments. Where possible, reporting will be further streamlined or simplified. Attention will also need to be paid to new emerging pollutants, for example, microplastics and pharmaceuticals and the Commission has adopted a strategic approach to pharmaceuticals in the environment[45].

A combined evaluation ("Fitness Check") of the Water Framework Directive, the Environmental Quality Standards Directive, the Groundwater Directive and the Floods Directive is ongoing. The overall purpose is to assess whether the legislation is still fit for

[44] Report on the implementation of the Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC), COM (2019) 95
[45] European Union Strategic Approach to Pharmaceuticals in the Environment, COM (2019) 128

purpose and has brought about the desired changes to European business and citizens. The evaluation will help the Commission to decide on the next steps for water legislation in Europe.

1.3 Marine waters

Sub-objectives: • The impact of pressure on marine waters is reduced to achieve or maintain good environmental status, as required by the **Marine Strategy Framework Directive**, and coastal zones are managed sustainably.
Actions: • Urgently increasing efforts, inter alia, to ensure that healthy fish stocks are achieved in line with the Common Fisheries Policy, the **Marine Strategy Framework Directive** and international obligations. Combating pollution and establishing a Union-wide quantitative reduction headline target for **marine litter** supported by source-based measures and taking into account the marine strategies established by Member States. Completing the **Natura 2000 network of marine protected areas**, and ensuring that **coastal zones** are managed sustainably;

Introduction

The 7th EAP sets out the need for more effective action to protect oceans and seas, safeguard fish stocks and reduce marine litter. It requires that by 2020 the impact of pressures on marine waters is reduced to achieve or maintain good environmental status, as required by the Marine Strategy Framework Directive (MSFD)[46], and coastal zones are managed sustainably.

Current situation

Good environmental status

The EU's **Marine Strategy Framework Directive** aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. The Directive defines GES as: "The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive" (Article 3). In order to achieve GES by 2020, each Member State is required to develop a strategy for its marine waters (or marine strategy). In addition, because the Directive follows an adaptive management approach, the marine strategies must be kept up-to-date and re-viewed every 6 years.

The marine strategies consist of a number of sequential steps: Member States first determine what they consider to be good environmental status, set targets, establish monitoring programmes, and have to include a set of measures. They do so on the basis of 11 'descriptors'[47], such as the quality of biodiversity, reduction of marine litter, and integrity of the seabed.

Not all Member States have set quantitative targets in relations to their GES. A new legal framework[48] leading to the establishment of "threshold values" for the various criteria to be assessed and considered for GES is now being implemented. This aims to rectify the lack of

[46] Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).
[47] Annex I of the MSFD.
[48] Commission Decision 2017/848/EU.

quantification and comparability experienced in the first cycle of implementation[49], which should allow us to measure the extent to which GES has been achieved. The Directive's 2020 objective has not yet been met. However, some Member States envisage that they will achieve GES for some MSFD descriptors by the required date.

In its first two assessments of implementation of the Directive in 2014[50] and 2017[51] the Commission highlighted that implementation was not ideal;Member States had determined good environmental status in a sub-optimal manner or monitoring programmes did not ensureappropriate coverage. The Directive was being implemented in a incoherent and inconsistent way throughout the EU marine regions. In its third assessment,[52] the Commission concluded that Member States need to improve their measures so that good environmental status is achieved in all Member States and for all descriptors. Nevertheless, the efforts undertaken so far should not be underestimated, as we now know more about the marine environment and need to take into account that it reacts slowly to change.

Member States frequently raise the issue of (financial & human) resources when implementing the MSFD. The Commission issues calls for proposals on a regular basis to facilitate implementation of the Directive. Other funding is available through funding instruments such as Horizon 2020, the European Maritime and Fisheries Fund and the LIFE programme.

The spatial area covered by the Directive has been cited as a challenge to implementing the MSFD. For some Member States their marine waters are much larger than their landmass (e.g. Portugal, Ireland). Commission Decision 2017/848/EU has therefore facilitated the use of a risk-based management of the marine environment, while retaining a comprehensive approach to safeguard the EU seas and oceans.

Implementation of the Directive is also complex due to the wide distribution of certain pressures (e.g. eutrophication in the Baltic Sea) and the various number of different human activities it addresses. In this sense, Annex III of the MSFD has also been revised[53] to better match human activities and the pressures they exert on the marine environment with good environmental status.

To promote a common understanding of what is required by the Directive, the Commission, Member States, Regional Sea Conventions and stakeholders have formed a "Common Implementation Strategy".

The Commission launched the "Blue2" study to develop an integrated policy assessment method for the freshwater and marine environment. For the marine environment it will look at its hydrodynamic, biogeochemical and food web characteristics.Blue2 aims to prepare policy relevant input data for these models, design policy scenarios that can be translated into input data for the models, and evaluate the model outputs.

Complete the Natura 2000 network of marine protected areas

[49] COM (2014) 97.
[50] COM(2014) 97.
[51] (COM(2017) 03.
[52] COM(2018) 562.
[53] Commission Directive (EU) 2017/845 of 17 May 2017 amending Directive 2008/56/EC of the European Parliament and of the Council as regards the indicative lists of elements to be taken into account for the preparation of marine strategies.

On **marine protected areas**, the spatial coverage of marine sites designated for protection under the EU Habitats Directive quadrupled between 2008 and 2015.[54] Within the 7th EAP reporting period, the spatial coverage of marine Natura 2000 sites designated for protection under the EU Habitats and Birds Directives has more than doubled, covering more than 500,000 km²(end 2017). However, additional Natura 2000 areas need to be designated to sufficiently protect all listed marine species and habitats.

Recent data shows that the EU has met the Aichi target (Aichi Target 11 of the Strategic Plan for Biodiversity 2011-2020 specifies that 10 % of marine and coastal areas are to be conserved by 2020).

Furthermore, coordinated steps between Member States and the Commission are being taken to put in place the necessary conservation measures in order to protect and manage those areas, especially fishery management measures in accordance with the common fisheries policy (CFP).

Reduce marine litter

On **marine litter**, the Commission proposal will reduce single use plastics and discarded fishing gear. Work is on-going to set threshold values for marine litter that does not harm the marine environment. After threshold values have been developed, this target could still be possible in principle. Commitments have also been made at the Our Ocean Conferences and the third session of the UN Environment Assembly.

Safeguard fish stocks

The **CFP** provides a set of rules for managing European fishing fleets and for conserving fish stocks. It aims to ensure that fishing and aquaculture are environmentally, economically and socially sustainable and that they provide a source of healthy food for EU citizens. Article 2(5)(j) of the CFP sets as one of its objectives coherence "with the Union environmental legislation, in particular with the objective of achieving a good environmental status by 2020 as set out in Article 1(1) of Directive 2008/56/EC, as well as with other Union policies". The current policy therefore stipulates that between 2015 and 2020 catch limits should be set that are sustainable and maintain fish stocks in the long term.

On **CFP**, the SDG 14 Eurostat indicator shows a positive downward trend in overexploitation[55]. Most of the EU catch comes from the North-East Atlantic, where around 60 % of assessed stocks were fished within fishing mortality at maximum sustainable yield (FMSY) in 2016, compared to 30 % in 2003. However, in other regions, the picture is less positive. The 2018 report[56] of the JRC's Scientific, Technical and Economic Committee for Fisheries shows that in the Mediterranean and Black Sea overfishing is broadly between two and three times FMSY for the region. Furthermore, in the Mediterranean and Black Seas, there are insufficient assessments of FMSY to allow for a realistic indication on the state of fish stocks. Spawning stock biomass is also still chronic in the Mediterranean, with stocks showing an average biomass decline of 25% between 2003 and 2015. Against this

[54] http://ec.europa.eu/eurostat/statistics-explained/index.php/SDG_14_-_Life_below_water_(statistical_annex)

[55] The 2018 edition of the Eurostat monitoring report on progress towards the SDGs in an EU context shows that in the North-East Atlantic (from where most of the EU catch originates, levels of overexploitation have generally fallen over the past decade. 'This positive development is visible in both the long-term period from 2003 to 2016, during which the share of overexploited stocks fell by 3.5% per year on average, and the short-term period 2011 to 2016, when it fell by 1.1% annually' (p. 270).

[56] https://stecf.jrc.ec.europa.eu/documents/43805/2092142/STECF+18-01+adhoc+-+CFP+Monitoring+2018.pdf/26e5f439-3976-43d1-abe9-0f6d685afcff

background, complying with the CFP objective of achieving FMSY for all stocks by 2020 will require more sustained efforts.[57]

Manage coastal zones sustainably
Directive 2014/89/EU establishes a framework for **maritime spatial planning** . Together with the 2002 EU Recommendation on Integrated Coastal Zone Management, Council Decision 2010/631/EU,[58] and the ongoing coastal work from the Water Framework Directive there is now a framework for managing **coastal areas**.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Overall, **some progress** has been made in the actions undertaken to reduce the impact of pressures on marine waters. While marine strategies have been set up by Member States, the limitations identified above means that limited progress has been recorded in some areas. As a result, more needs to be done to achieve good environmental status by 2020 in all Member States and across all MSFD descriptors, while a positive downward trend in overexploitation of fisheries resources has been registered. There is also strong EU engagement in international efforts. However, overfishing persists, especially in some regions, which means that limited progress has been made on this action. Substantial progress has been made on marine litter, in particular thanks to the recent initiatives linked to the circular economy and the international commitments undertaken. The marine strategies by Member States provide for a mixed picture, while the follow-up to the GES Decision is still ongoing. As a result, only some progress has been made on this. Progress in coastal zone management has so far been limited. On Natura 2000, the network of marine protected areas has increased, although is not near completion; this shows that some progress has been made towards fulfilling the actions.

1.4 Land and Soil

Sub-objectives:

- **Land** is managed sustainably in the Union, **soil** is adequately protected and the remediation of contaminated sites is well underway;

Actions:

- Increasing efforts to reduce **soil erosion** and increase **soil organic matter**, to remediate **contaminated sites** and to enhance the **integration of land use** aspects into coordinated decision-making involving all relevant levels of government, supported by the adoption of

[57] http://ec.europa.eu/eurostat/statistics-explained/index.php/SDG_14_-_Life_below_water_(statistical_annex)
[58] Council Decision 2010/631/EU adopts the Mediterranean Protocol on Integrated Coastal Zone Management into the EU acquis.

targets on soil and on land as a resource, and **land planning objectives**;

Introduction

Land and soils are critical but finite natural resources, with soil being part of the land surface. Together they provide key ecosystem services such as the production of food, feed, fibre and biomass for renewable energy, carbon sequestration, water purification, flood regulation, the provision of raw and building materials, etc. These resources are coming under increasing pressure in the EU, in particular from agriculture, urbanisation, climate change and industrial activities. A series of processes and threats are degrading the quality of European land and soils: erosion, decline in organic matter, local and diffuse contamination, sealing, compaction, loss of biodiversity, salinization, floods, landslides and desertification. The overall objective of EU soil policy is to address these soil threats in order to prevent further degradation by promoting sustainable land and soil management, to preserve soil functions, and to restore already degraded land and soils.

Current situation

The **soil thematic strategy**, which was adopted in 2006, remains the main overarching soil policy instrument at EU level. It encompasses four pillars of action, :(i) the integration of soil protection in national and EU policies, (ii) closing knowledge gaps by stimulating and funding research, (iii) increasing public awareness, and (iv) the development of EU soil legislation. Many actions have been taken under the first three (non-legislative) pillars at EU and Member State level.

Under Pillar 1, efforts have been made to integrate soil protection considerations into other EU policy domains (e.g. agriculture, water, waste, biodiversity, industrial emissions, environmental liability, regional development, research, etc.). For instance:

- The proposal for revision of the Fertilisers Regulation,[59] published in March 2016 covers a wide range of fertilising products (including those manufactured from secondary raw materials).It sets limits for heavy metals and contaminants in fertilising products, which will have a favourable effect on the condition of agricultural soils. The progressive limits on cadmium proposed by the Commission are particularly important for protecting soil and human and environmental health.
- The Minamata Convention (Article 12)[60] and the new Mercury Regulation[61] provide for an exchange of information with Member States on the identification, inventory and assessment of sites contaminated with mercury or mercury-compounds.
- The Regulationon the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF Regulation) [62] defines soil organic carbon as a carbon pool. Member States have to monitor and include changes in it in their accounts. (See Section 2.1 on low carbon economy for more discussion of LULUCF.)

[59] COM(2016) 157 .

[60] http://www.mercuryconvention.org/Portals/11/documents/Booklets/COP1%20version/Minamata-Convention-booklet-eng-full.pdf

[61] Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, and repealing Regulation (EC) No 1102/2008 (OJ L 137, 24.5.2017,), p. 1-21.

[62] Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU.

- The Renewable Energy Directive[63] promotes the cultivation of biomass for biofuels and bio liquids from restored degraded land.
- The waste package[64] under the circular economy strategy establishes binding targets for the reuse and recycling of municipal waste. It also reduces landfilling which will have a positive effect on soil quality.
- The common agricultural policy (CAP) can also help to the prevent and mitigate soil degradation processes. Agri-environmental measures encourage farmers to protect and improve the quality of their farmland by paying them to provide environmental services. These incentives help build soil organic matter, increase soil biodiversity and reduce erosion, contamination and compaction. Under cross-compliance, the obligation to keep agricultural land in good agricultural and environmental condition, improves soil quality. The new proposal for the CAP post-2020[65] aims to strengthen soil protection by introducing conditionality measures on soil erosion and on soil organic matter as well as additional measures on cover crops and crop rotation, and provisions on the sustainable use of pesticides. However, the impact will depend on how the Member States decide to implement the measures in their national plans.

Under Pillar 2, projects that deal with land and soil protection have been funded by Horizon 2020,[66] LIFE,[67] regional policy and the Interreg programmes for territorial cooperation.[68] Soil data collection and soil monitoring have been improved at national and EU level, in particular thanks to the Land Use/Cover Area frame Survey (LUCAS), which survey which analyses the physico-chemical properties of soil samples from 27,000 locations across the EU. The resulting soil data and scientific information are available from the European Soil Data Centre (ESDAC) managed by the Joint Research Centre.[69]

Under Pillar 3, the activities to increase awareness on soil culminated in more than 400 events being held at EU and national level during the International Year of Soils.[70] The Commission also actively promoted soil protection and sustainable soil and land management at international level in particular at the level of the UN Food and Agriculture Organisation and its Global Soil Partnership, the UN Convention to Combat Desertification (UNCCD), the Convention on Biodiversity (CBD), the UN Framework Convention on Climate Change (UNFCCC) and the 2030 Agenda for Sustainable Development. Soil and land are explicitely mentioned in four Sustainbale Development Goals (SDGs) although many other SDGs depend on sustainable soil and land management. SDG target 15.3 is particularly important because it requires "countries to combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation-neutral world by 2030" .

[63] Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources, OJ L 239, 15.9.2015, p. 1-29.
[64] http://ec.europa.eu/environment/circular-economy/index_en.htm.
[65] COM(2018) 392 final – 2018/0216 (COD).
[66] e.g. LANDMARK, ISQAPER, INSPIRATION, GroundCleaner, BRODISE, POSIDON, and the European Joint Programme on Agricultural Soil Management.
[67] e.g. BIOREST, VITISOM, AGROWETLANDS II, SOIL4WINE, DESERT-ADAPT, No_Waste, The Green Link, Peat Restore, SOS4LIFE.
[68] e.g. DriDanube, Tania, Cocoon, Precarious Soil.
[69] https://esdac.jrc.ec.europa.eu/
[70] http://ec.europa.eu/environment/soil/iys2015/index_en.htm

The Urban Agenda[71] for the EU represents a bottom up initiative, with 12 partnerships between Member States, cities, the Commission and other stakeholders developing action plans on better EU regulation, funding and knowledge for sustainable urban development. The partnership 'sustainable land use and nature based solutions' uses sustainable land use to address soil and has finalised its action plan on how to promote sustainable land use in the EU. This includes raising awareness about the detrimental effects of urban sprawl.

Under Pillar 4, the Commission launched a proposal for a Soil Framework Directive [72] in 2006. It was endorsed by the European Parliament, but was blocked in the Council. After 8 years of political discussions, the Commission withdrew its proposal in May 2014., while confirming its commitment to the objective of protecting land and soil and the willingness to examine options on how to best achieve this[73]

In 2015, the Commission set up an EU expert group on soil protection composed of experts nominated by the Member State.[74] Its mandate is 'to reflect with Member States on how soil quality issues could be addressed using a targeted and proportionate risk-based approach within a binding legal framework'.

With the help of the EU soil expert group, the Commission published an inventory and gap analysis of soil protection policy instruments at EU and national level[75] in February 2017. This study analysed to what extent soil protection is integrated in national and EU policies. The report concluded that common strategic coordination and vision is needed with clear goals and targets, but is still lacking.

Are we on track to meet the 7th EAP's objectives and sub-objectives?

The 7th EAP sets out a number of soil and land related objectives, but does not provide any quantitative targets. The qualitative targets refer to soil erosion, soil organic matter, soil contamination, and land take which are the main soil and land degradation processes in the EU.

At EU level, there is no commonly agreed estimate of overall soil and land degradation. A consensus exists that EU soils are exposed to various threats with a lot of regional and local variability. The European environment state and outlook report 2015[76] concludes that: the ability of soil to deliver ecosystem services in terms of food production, as biodiversity pools and as a regulator of gasses, water and nutrients is under increasing pressure; and, observed rates of soil sealing, erosion, contamination and decline in organic matter all reduce soil capability.

Figure 5: Land use and soil trend and outlook

[71] https://ec.europa.eu/futurium/en/urban-agenda-eu/what-urban-agenda-eu
[72] COM(2006) 232.
[73] Withdrawal of obsolete Commission proposals, (2014/C 153/03), OJ C 153, 21.5.2014, p. 3-7, with a corrigendum in OJ C 163, 28.5.2014, p. 15-15.
[74] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3336
[75] http://ec.europa.eu/environment/soil/pdf/Soil_inventory_report.pdf
[76] https://www.eea.europa.eu/soer-2015/synthesis/report/action-download-pdf

Trends and outlook: Land use and soil functions	
	5–10 year trends: Loss of soil functions due to (urban) land take and land degradation (e.g. as a consequence of soil erosion or land intensification) is continuing; nearly a third of Europe's landscape is highly fragmented.
	20+ year outlook: Land use and management, and their associated environmental and socio-economic drivers, are not expected to change favourably.
No target	*Progress to policy targets:* The only non-binding explicit objective is to arrive at 'no net land take by 2050', and to restore at least 15% of degraded ecosystems by 2020.

EU level data are mainly derived from LUCAS (field survey every 3 years), Copernicus and CORINE Land Cover (earth observation, every 3 years). The results of LUCAS 2015 have not yet been published, so the lack of time series makes it difficult to evaluate progress. There are also data available at national level (at least in some Member States) although these are not harmonised and comparable. In the absence of a common definition for soil quality and soil degradation, relative data should be preferred instead of absolute values.

- For **land take and soil sealing**, land take at EU level decreased from 930 km^2 annually between 2000 and 2006 to 845 km^2 annually between 2006 and 2012. However, this is still too high and well above the average annual land take rate of 800 km², which is the path described in the Roadmap To A Resource Efficient Europe[77] to meet the no net land take in 2050. The current trend indicates that the target of 'no net land take' will not be achieved by 2050.
- **Soil erosion by water and wind** is estimated to affect 22% of European land (Jones et al. 2012). More than half of agricultural land in the EU has average erosion levels higher than what can be naturally replaced (representing over one tonne of lost soil per year and per hectare), meaning that present management techniques in these areas are unsustainable.
- LUCAS measures **top-soil organic carbon content** in a harmonised way across Europe. Around 45 % of the mineral soils in Europe have low or very low organic carbon content (0-2%), and 45 % have a medium content (2-6 %)[78]. Low levels are found in particular in southern Europe where 74% of land has less than 2 % of organic carbon in topsoil (0-30 cm)[79]. The degradation of peatlands is a particular area of concern: the conversion and drainage of peatlands currently amounts to 20-40 tonnes of CO_2 per hectare per year. Soils under grassland and forests are a carbon sink (estimated at up to 80 million tonnes of carbon per year[8081]), whereas the majority of EU arable soils are suffering net carbon losses each year (estimated at between 10-40 million tonnes of carbon per year) and therefore contribute to climate change.
- **Local soil contamination**: 2.5 million sites in Europe are potentially contaminated (based on risk activities), of which 350 000 are expected to require remediation.
- There is a lack of comprehensive information on **diffuse soil pollution** (e.g. from pesticides, fertilisers, emerging pollutants, heavy metals, etc.) at European level except for heavy metals (LUCAS and GEMAS data available). The presence of other pollutants is still largely unknown.

[77] http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm
[78] JRC (2012), "State of soil in Europe", p. 10: http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/other/EUR25186.pdf
[79] https://www.eea.europa.eu/data-and-maps/indicators/soil-organic-carbon-1/assessment/#_edn2
[80] EEA (2012) Climate change, impacts and vulnerability in Europe: an indicator-based report.
[81] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

- Around 25 % of irrigated agricultural land in the Mediterranean region is estimated to be affected by salt with an impact on agricultural potential. The issue of **salinisation** is only partly addressed, e.g. by some rural development plans.
- In southern, central and eastern Europe, 8% of the territory currently shows a very high or high sensitivity for **desertification** corresponding to around 14 million ha, and more than 40 million ha if moderate sensitivities are included.[82] Large parts of southern Europe are likely to become desert by 2050 as a result of climate change and inappropriate agronomic practices if strong action is not taken.
- 32-36 % of European subsoils have high or very high susceptibility to **compaction** (Jones et al. 2012)[83].
- There were 384 **flood** disasters worldwide in 2016, compared to 58 in 1980. Flood disasters have more than doubled across Europe in 35 years according to new research by Munich Re, the world's largest reinsurance company. The firm's latest data shows that there were 30 flood events that required insurance payouts in Europe last year - up from just 12 in 1980 - and the trend is set to accelerate as rising temperatures drive up atmospheric moisture levels.
- The combination of various soil degradation processes results in a **loss of soil biodiversity**. Due to increasing urbanisation, land abandonment, and intensification of agricultural production, soil functions and the delivery of ecosystem services continue to be undermined.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The overall assessment is that there is some progress towards achieving the objectives on land management and soil set out in the 7th EAP.

Land and soil degradation is a complex process triggered by a complicated mix of drivers. It evolves slowly and the impact of measures often only becomes visible after many years. Due to the complexity and often hidden aspects of the problem, it is hard to raise awareness. Without quantitative and binding targets it is difficult to evaluate the progress. Following the withdrawal of the Soil Framework Directive proposal in 2014, the Commission set up a soil expert group with the mandate to address the 7th EAP commitments, in particular to reflect on further EU soil policy developments. The inventory of soil-related policies in the EU highlighted a number of gaps.

[82] State of Soils in Europe, p. 28: http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/other/EUR25186.pdf

[83] State of Soils in Europe, p. 18: http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/other/EUR25186.pdf

At EU level, land and soil degradation are mainly addressed by integrating protection and prevention measures into other policy frameworks. There is no comprehensive instrument to protect soil in an integrated way. Soil protection is mostly an outcome derived from protecting other natural resources and from addressing other environmental threats or targets. There is still a lack of common definitions, targets, priorities, and harmonised monitoring methodologies. Some progress has been made on erosion and the remediation of contaminated sites., However, land take remains an issue making it difficult to meet the no net land take target by 2050. The evolution of organic carbon in European soils is unclear and gives mixed views. The degradation of European soils leads to costs and negative impacts for society and the economy. The recent assessment report on land degradation and restoration by Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services (IPBES) indicates that the costs of restoration are 10 times higher than prevention costs.

Nevertheless, some progress has been made: some Member States have strengthened their national soil policy frameworks. At international level, the momentum for soil protection has increased since the SDGs were adopted in particular target 15.3 on land degradation neutrality. The Rio Conventions better address land and soil degradation which are cross-cutting issues: the Convention on Biological Diversity is recognises the crucial role of soil biodiversity and land degradation, the United Nations Framework Convention on Climate Change (UNFCCC) now takes soil carbon stocks fully into account, and the United Nations Convention to Combat Desertification (UNCCD) has made efforts to define, fund and stimulate the achievement of land degradation neutrality.

1.5 Forests

Sub-objectives:

- The loss of biodiversity and the degradation of ecosystem services, including pollination, are halted, ecosystems and their services are maintained and at least 15% of degraded ecosystems have been restored.
- Forest management is sustainable, and forests, their biodiversity and the services they provide are protected and, as far as feasible, enhanced and the resilience of forests to climate change, fires, storms, pests and diseases is improved.

Actions:

- Developing and implementing a renewed Union Forest Strategy that addresses the multiple demands on, and benefits of, forests and contributes to a more strategic approach to protecting and enhancing forests, including through sustainable forest management;
- Stepping up the implementation of the EU Biodiversity Strategy without delay, in order to meet its targets (including target 3b on forests)
- Agreeing and implementing an EU Strategy on adaptation to climate change, including the mainstreaming of climate change adaptation into key Union policy initiatives and sectors

Introduction

Forests and other trees are a precious natural resource and a key part of Europe's natural capital. They represent some of the most biodiversity-rich areas in Europe. The capture and storage of carbon and ecosystem resilience help mitigate and adapt to climate change; they also provide wood, other fibres and products, prevent soil erosion, clean water and protect from floods and landslides, and support leisure and recreation. However, existing and new pressures including increasing demand for wood and climate change impacts affect forests' resilience and ability to provide ecosystem and other services. There is therefore a need to strike the right balance and to preserve and manage forest ecosystems and forested landscapes in an appropriate way, if we want them to remain in good shape and to provide

their many benefits not only to us but also to future generations. EU policies in various fields must contribute to these objectives including environmental, climate, rural development, research, industry and energy policies.

Current situation

According to the EU forest strategy, sustainable rorest management means: *'using forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems'.*

Key EU legislation in support of these objectives includes

- the Birds and Habitats Directives[84], which aims to protect forest habitats and species, notably through the Natura 2000 network (more than 20% of EU forests are part of Natura 2000);
- the EU Timber Regulation[85], which aims to ensure that only legally harvested timber can enter the market;
- the Rural Development Regulation[86], which offers regional authorities from Member States the opportunity to fund specific forest measures in their territory that support the objectives of the 7th EAP, tapping into the EU's rural development funds;
- The LULUCF regulation[87], which includes greenhouse gas emissions and removals from forestry and other land-use sectors in the EU's mitigation efforts, and incentivising more climate-friendly land use for instance by supporting forest owners and managers with greater visibility for the climate benefits of certain harvested wood products; and
- Recast of the Renewable Energy Directive[88] which strengthens the EU's sustainability criteria for bio-energy in order to minimise the risk of using forest biomass derived from unsustainable production

In addition to the EU forest strategy, the EU biodiversity strategy plays an important role. It includes a specific objective on forests (objective 3b) and lists a number of specific actions and requirements in support of it.

Key aspects of the ongoing work on forest information include the development of a future 'Forest Information System for Europe' and the so-called forest pilot of the 'Mapping and Assessment of Ecosystem Services' initiative.

The 2016 'Beyond Wood' conference also highlighted the tremendous value of forest ecosystem services other than wood production.

Are we on track to meet the 7th EAP's objectives and sub-objectives?

The Progress in the implementation of the EU forest strategy's report published on 7 December 2018 concludes that the strategy has set clear aims and has successfully coordinated efforts to achieve them[89].

[84] http://ec.europa.eu/environment/nature/legislation/index_en.htm
[85] Regulation (EU) No 995/2010
[86] Regulation (EU) No 1305/2013
[87] Regulation (EU) 2018/841
[88] Directive (Eu) 2018/2001

The use and management of forest resources varies greatly across Europe and depends on factors such as local social ownership and economic situations, history, traditions and government policies both within and outside the forest ecosystems, as well as available markets for wood and non-wood forest products and services. Europe' s forests thus reflect this variety of economic, social and environmental conditions in the region.

Forest area in Europe has increased by 17 million hectares since 1990. This is the result of afforestation (e.g. planting of trees on land that was not previously forested) and the natural expansion of forests such as onto abandoned land. Around 3 % of forest land area is primary forest.

The 2017 Commission report on forest fires in Europe shows 'a clear trend towards longer fire seasons compared to previous years, with fires now occurring well beyond the dry and hot summer months (July-September)'. The problem is the catastrophic, large-scale and mega fires that are occurring more frequently (although the longer time series reveals a long-term downward trend in the number of fires, size and total area burnt). In southern Europe, wildfires destroyed over 1.2 million hectares of forest and land in Europe in 2017 – more than the total surface area of Cyprus. They also claimed the lives of 127 civilians and fire fighters and caused economic damage estimated at almost EUR 10 billion.

Atmospheric depositions such as nitrogen put additional pressure on forests. Forest soils in parts of central Europe, an area once awash with inorganic nitrogen deposition, are now showing the first signs of recovery. However, large parts of Europe still suffer from inorganic nitrogen inputs above critical levels, which negatively affect forest ecosystems. Current ozone levels are also high enough to negatively affect vegetation.

Forests play an important role in nature and biodiversity conservation. In Europe, protected forest areas account for more than 45 % of the Natura 2000 protected areas, 31.3 % of the national designated protected areas, and around 12 % of the total forest area. The Commission, together with key stakeholders, has developed a 'Natura 2000 and Forests' guidance. Overall, the implementation of the Birds and Habitats Directives and the practical management of the Natura 2000 network in forests is still work in progress and remains a major challenge for national authorities and target groups. According to the Natura 2000 monitoring process, the fitness check of the Directives, and the action plan for nature, people and the economy, the conservation status of forest habitats is analogous to the average situation of EU habitats, with around 80 % of forest habitat assessments 'unfavourable'.

There are several causes for the decline in biodiversity, including both habitat alteration in the case of inappropriate forest management and climate change. Both factors affect biodiversity separately and in combination.

Illegal logging is still a major problem in parts of Europe. For instance, the Carpathians Mountains contain a significant proportion of the few old growth forests that remain in Europe. In the EU, many of them are protected as part of the Natura 2000 network; in enlargement and neighbourhood countries, they are offered protection as part of the Emerald Network[90]. In this context, the Commission is concerned about illegal logging of such extremely precious forests as well as forests located within Natura 2000 protected areas. In recent years, efforts to better monitor and trace timber across the supply chain have been

[89] COM(2018) 811
[90] https://www.coe.int/en/web/bern-convention/emerald-network

made. Implementation on the ground and the enforcement of the legal framework are still though a challenge.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The previous sections detail a number of important aspects that suggest that progress has been made on the specific objective of the 7th EAP for forests ('forest management is sustainable, and forests, their biodiversity and the services they provide are protected and, as far as feasible, enhanced and the resilience of forests to climate change, fires, storms, pests and diseases is improved').

While Europe's forest area is relatively stable at present, the forests are subject to many pressures, including pollution, built infrastructure, tourism, human activities and climate change impacts such as storms and pests. The latest data from the European Environment Agency on forest biodiversity show that only 26 % of forest species and 15 % of forest habitats were found to have favourable conservation status. On the other hand, policy progress has been made, with the EU Forest Strategy adopted in 2013. It addresses the demands on forests and contributes to a more strategic approach to, including through sustainable forest management. The demand for forest products and ecosystem services, including removing carbon dioxide from the atmosphere and storing, is projected to increase in the future. At the same time, forest ecosystems are increasingly vulnerable to climate change[91].

1.6 Nutrient cycles

Sub-objectives:

- The nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way;

Actions:

- Taking further steps to reduce emissions of nitrogen and phosphorus, including those from urban and industrial wastewater and from fertiliser use, inter alia through better source control, and the recovery of waste phosphorus;

Introduction

Nutrients (nitrogen and phosphorus) are essential for life and an important natural resource. A large proportion of nutrient management relates to the use of fertilisers in agriculture. Furthermore, releases into the environment also result from other pollution sources, such as combustion processes and waste water treatment (nitrogen and phosphorous). Despite

[91] European Environment Agency "Better information needed on Europe's forests", 2018

improvements in emission reduction and in management practices, these resources have to be managed more efficiently and a circular economy should be set up. At the same time, the environment should be protected from adverse effects.

Societal costs are very high due to an excess of nutrients and loss of air and water quality, which is linked to impacts on ecosystems and human health. The 'European Nitrogen Assessment'[92] concluded that the overall environmental costs of all reactive nitrogen losses in Europe are estimated at EUR 70-320 billion per year, a lot higher than the costs of reducing pollution at source.

Current situation

There are different environmental policy instruments dealing with nutrients in the EU:

Nitrates Directive

This aims to protect water quality across the EU by preventing nitrates from agricultural sources from polluting ground and surface waters and by promoting the use of good farming practices. To achieve this objective, Member States must monitorof water quality, designate nitrate vulnerable zones and implement codes of good agricultural practices (voluntary) and action programmes (mandatory in nitrate vulnerable zones or, if the Member State chooses not to designate these, in its whole territory).

Urban Waste Water Treatment Directive: Thisrequires the removal of nitrogen and/or phosphorus when treated urban wastewater is being discharged into so-called sensitive areas (Article 5). Compliance is at 84.5% for more stringent treatment than secondary treatment, which means removing nitrogen and/or phosphorus, when required.

The 7th EAP calls for a specific action on the sustainability of the nutrient cycle, namely that *the nutrient cycle (nitrogen and phosphorus) to be managed in a more sustainable and resource efficient way*. This requires, in particular, *taking further steps to reduce emissions of nitrogen and phosphorus, including those from urban and industrial wastewater and from fertiliser use, inter alia, through better source control, and the recovery of waste phosphorus.*

Projects linked to different aspects of nutrient cycles include projects under the LIFE programme and HORIZON 2020 as well as pilot projects funded by the European Parliament

Are we on track to meet the 7th EAP's objectives and sub-objectives?

Overall, the past trend in agricultural nitrogen balance improved from 2000 to 2015, although it has levelled off since 2010.[93] The gross phosphorus balance for the EU decreased from an estimated average of 3.9 kg per hectare per year in 2004-2006 to 1.2 kg per hectare per year in 2013-2015.[94] Despite these improvements, further efforts are needed to manage the nutrient cycle and reduce nutrient losses in the EU.

[92] http://www.nine-esf.org/node/360/ENA-Book.html

[93] EEA Annual Indicator Report Series (AIRS) In support to the monitoring of the 7th Environment Action Programme - Agricultural land: nitrogen balance: https://www.eea.europa.eu/airs/2018/natural-capital/agricultural-land-nitrogen-balance

[94] Eurostat Agri-environmental indicator - risk of pollution by phosphorus: http://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_risk_of_pollution_by_phosphorus.

Nitrates Directive
On nitrates from agricultural sources, the latest available data, indicate that nitrate concentrations decreased in both surface and groundwater in 2012-2015 However, agricultural pressures on water quality are still problematic and are often due to the intensive use of fertilisers and manure. This leads to high nutrient surpluses that are transferred to ground and surface water. For this reason, despite positive overall trends, nitrate pollution and eutrophication hotspots continue to cause problems in many Member States.

Urban Waste Water Treatment Directive
Overall, steady progress has been made on compliance with the Urban Waste Water Treatment Directive over the years. However, it has been slow and some Member States with obligations that expired many years ago are still not compliant. This Directive is subject to an ongoing evaluation.

Air quality (ammonia)
While emissions of ammonia have been decreasing in the last few decades, the European institutions have deemed these efforts to be insufficient. Revised Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants aims to lessen the health effects caused by air pollution, as well as reduce negative impacts on environment/ecosystems. One of the air pollutants addressed is ammonia, for which all Member States have reduced their total emissions. To help Member States, Annex III of the Directive includes a list of proven and affordable measures to reduce ammonia emissions.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The 7th EAP called for the nutrient cycle of nitrogen and phosphorus to be better managed. Nitrates concentrations have decreased in both surface and groundwater in the 2012-2015 and sustainable agricultural practices on nutrient management have become more widespread. Overall, the quality of action programmes has improved, with tightened measures and improved methodologies to achieve balanced fertilisation.

However, some challenges still exist, and appropriate and additional measures by Member States are still needed to achieve the 7th EAP objectives. For instance, in some Member States where the action programme is applied throughout the whole territory, the measures need to be suitably adapted to different regional pressures and hotspots. Clear environmental objectives and targets should be coupled with effective advice and support to farmers in order to select and implement the right measures, stricter enforcement mechanisms and accurate nutrient management planning. It is also important to properly take into account all nutrient inputs from different sources, and use effective manure management to prevent nutrient losses to water and air.

The Urban Waste Water Treatment Directive (UWWTD) is a crucial part of water legislation as it ensures that bathing waters and catchment areas for drinking water are not contaminated by the discharges of untreated waste water. With urban waste water treatment being a basic measure under the Water Framework Directive, the UWWTD is also essential to achieving the Water Framework Directive's objectives. The UWWTD tackles different kinds of pollution, not only organic pollution, but also nutrient pollution. Agglomerations above 10 000 p.e. that discharge waste waters in sensitive areas must comply with requirements for treating nitrogen and phosphorus. Together with the Nitrates Directive, the UWWTD aims to reduce the release of unnecessary nutrients into the environment.

As ammonia emissions to the air have shown a slightly upward trend in recent years, Member States have to step up their efforts. The Directive on the reduction of national emissions of certain atmospheric pollutants (the NEC Directive) as well as supporting action such as the EU Clean Air Forum and Clean Air Dialogues should lead to further action.

1.7 Communication and awareness raising on environment policy

Sub-objectives: *Not relevant*
Actions: • Enhancing **Union public information provision, awareness and education on environment policy**.

Introduction

The communication actions undertaken during the 7th EAP implementation period reflect the Commission's priorities and highlight the EU added value in developing environmental policies such as resource efficiency, a low-carbon circular economy, protecting natural capital including biodiversity, water and air. As illustrated by the non-exhaustive examples below, we have achieved substantial progress in implementing the action 'enhancing Union public information provision, awareness and education on environment policy'.

Current situation

The social media accounts (Facebook and Twitter) managed by DG Environment to disseminate information and raise awareness of environmental policies have steadily grown with more than 53 000 followers on Twitter and 253 000 followers on Facebook (October 2018).

Every year, the EU Green Week continues to gather a significant number of participants engaged in environmental sectors and policies. The average number of participants per day has been stable, with around 500 daily participants daily since 2016. EU Green Week is an important forum for reaching out to EU citizens about EU environmental policies. Evidence of this is the survey of participants involved in the EU Green Week 2018 partner events, e.g. events outside Brussels not organised by the Commission but in partnership with EU Green Week. On the question 'EU Green Week 2018 improved my understanding of what the EU is doing in the field of environmental policy', 93 % tend to agree, or fully agree. On the question 'What difference, if any, does EU Green Week 2018 make to your feelings about the EU?', 77 % feel slightly positive, or much more positive.

From January 2014 to October 2018, 752 482 copies of publications about environmental policies (available in 24 languages) were disseminated mainly to the Representations of the EU in Member States, Europe Direct Info Centres and through spontaneous requests. One of the most requested publications was '52 Steps towards a Greener City' with 95 198 copies printed; 'the flight of the Cranes (publication for children) was printed 80 997 times. From January to October 2018, user-friendly 'info sheets' were produced to inform the public about EU environmental policies e.g. the info sheet on water (17,864 prints); info sheet on Green products and Services (18,078 prints); info sheet on Clean Air (15,304 prints).

In 2014, the 'Generation Awake!' awareness raising campaign on resource efficiency focused on waste management, using online and offline communication tools (web, social media, videos, competitions, events, press clippings and advertisements). The independent evaluation of the campaign concluded that the content of the campaign was clear and provided a rich source of information. Evidence also indicates that it raised awareness about resource efficiency and encouraged behavioural changes among its audiences, and was clearly recognised as an EU campaign.

The dedicated PR campaign that focuses on eight Member States at the beginning of 2016 to promote the circular economy package led to an aggregated reach of 375.5 million readers for results published in print, online media and by press agencies. It also generated an aggregated radio audience of around 2.2 million listeners for the coverage broadcast on radio stations in these Member States.

The Natura 2000 Award was launched in 2014 (every 2 years), with a clear increase over the years in outreach on social media. The conversations generated on social media about the award increased fivefold; together with a significant increase in conversations about the Natura 2000 network in general. The Natura Day (21 May) was launched in 2017. For its second edition in 2018, 20 Member States organised 111 events.

The 'Ready to change' awareness-raising campaign promoting the Commission's single-use plastics initiative was implemented in summer 2018 in seven Member States. Some 600 articles were generated as part of the campaign in these Member States, with only neutral and positive (over 20%) clippings tracked. The online campaign resulted in some 20 million potential social media users, 10.3 million views of animations and over 400,000 visits to the website. The single-use plastics campaign followed activities to promote the plastics strategy, implemented as soon as the strategy was adopted in January 2018. Social media entries with the #PlasticsStrategy hashtag potentially reached over 150 million users online between January and October 2018.

Are we on track to meet the 7th EAP's objectives and sub-objectives?
As outlined above, a significant number of initiatives have been undertaken to complete this action (, and **substantial progress** has been achieved.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress

☐ Fully implemented

In addition to the daily work with media/press to provide information to journalists on environmental policies, the social media presence of DG Environment has grown steadily in recent years.

Specific awareness raising campaigns have been implemented; the awards launched by DG Environment are gathering interest and the annual EU Green Week continues to attract a significant number of participants.

The significant number of publications on environmental policies disseminated offline and online also reflects an improvement in the provision of information to the public, education and awareness raising.

2 PRIORITY OBJECTIVE 2: To turn the Union into a resource-efficient, green, and competitive low-carbon economy

2.1 Low-carbon economy (climate change mitigation)

Sub-objectives:
• The Union has met its **2020 climate and energy targets** and is working towards **reducing by 2050 GHG emissions by 80-95 % compared to 1990 levels**, as part of a global effort to limit the average temperature increase below 2 °C compared to pre-industrial levels, with the agreement of a climate and energy framework for 2030 as a key step in this process;
Actions:
• Fully implementing the **Climate and Energy Package** and urgently agreeing on the Union's 2030 climate and energy policy framework, with due regard for the most recent IPCC assessment report, taking into account the indicative milestones set out in the Low-Carbon Roadmap, as well as developments within the UNFCCC and other relevant processes;

Introduction

The EU has set 2020 climate and energy targets and has agreed on a climate and energy framework for 2030 as key steps in reducing greenhouse gas emissions by 80-95 % by 2050 compared to 1990 levels. This is part of a global effort to limit the average temperature increase to below 2 °C compared to pre-industrial levels.

In light of the 7th EAP's objective to turn the EU into a resource-efficient, greener and more competitive low-carbon economy, the EU has set itself targets for reducing its greenhouse gas emissions progressively up to 2050. These targets are outlined in the **2020 climate and energy package** and the **2030 climate and energy framework**.

The **2020 package** is a set of binding laws to ensure that the EU meets its climate and energy targets for 2020. The package sets three key targets: **20 %** cut in greenhouse gas emissions (from 1990 levels); **20 %** of EU energy from renewables; and **20 %** improvement in energy efficiency. These targets were set by EU leaders in 2007 and transformed into legislation in 2009.

As mentioned in the 7th EAP's set of actions, EU leaders adopted the **2030 climate and energy framework** in October 2014**,** which sets three key targets for 2030: at least a **40 %**

cut in greenhouse gas emissions (from 1990 levels); at least **27 %** of the EU energy from renewables; and at least a **27 %** improvement in energy efficiency. In 2019, the Commission, the European Parliament and the Council of the European Union reached agreement the "Clean Energy for all Europeans" package. Two targets were agreed upon by 2030: at least 32.5% energy efficiency to be achieved collectively by the EU), and a binding European Union-wide target of at least 32% of renewable energy in gross final energy consumption.

Current situation

In 2017, the EU's greenhouse gas (GHG) emissions (excluding LULUCF emissions) were 22% below their 1990 levels, and the 2020 target is likely to be exceeded. The 20 % renewable energy target is also expected to be met. Meeting the (20 %) energy efficiency target for 2020 may require additional efforts. The major pieces of legislation (revised Emissions Trading System, Effort Sharing Regulation and LULUCF Regulation) to achieve a reduction of at least 40 % reduction of the EU's GHG in 2030 were agreed in 2018. An EU-wide renewable energy target of 32 % (of energy consumption) was also agreed, together with an energy efficiency target of 32.5 % for 2030.

In the international context, all 197 parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted an ambitious universal legally binding framework agreement in 2015. This agreement will apply no later than 2020. Specific EU communications include the 2015 communication "The Paris Protocol – a blueprint for tackling global climate change beyond 2020" (adopted in February 2015), the 2015 EU biennial report on progress towards GHG emissions targets and implementation of climate policies and measures, as required by the UNFCCC (adopted in October 2015), as well as the 2016 communication "The Road from Paris: assessing the implications of the Paris Agreement" (adopted in March 2016).

The EU's climate and energy framework for 2030 includes (i) integration of the LULUCF sector into the economy-wide accounting framework; (ii) an enhancement to cost-effective emission reductions and low-carbon investments[95]; (iii) a Regulation of the European Parliament and of the Council on binding annual GHG emission reductions by Member States from 2021 to 2030 for a resilient Energy Union and to meet the commitments under the Paris Agreement and amending Regulation No. 525/2013 on a mechanism for monitoring and reporting GHG emissions[96]; and (iv) Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

The EU is likely to **surpass the goal of a 20 % reduction in its GHG emissions by 2020** (compared to 1990). In 2016, the EU's domestic GHG emissions were 22 % lower than in 1990. This reduction may even increase to 26 % by 2020. The share of **renewable energy** was around 17 % in 2016, and is forecast to reach 20 % in 2020. The **energy efficiency** target of 20 % for 2020 is likely to be achieved, although minor additional efforts may be needed. In May 2018, the EU also agreed on a climate and energy framework for 2030. This included a 40 % GHG reduction and an EU-wide renewable target of 32 %. An energy efficiency target of 32.5 % for 2030 was agreed in 2018.

Summary

[95] COM(2015) 337 .
[96] COM(2016) 482 .

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☐ Substantial progress
☒ Fully implemented

On the EU's climate and energy targets for 2020, the EU has a binding legal framework in place to reduce its **GHG emissions** by 2020 by 20 %, to meet a 20 % share of renewable energy in final energy consumption and achieve a 20 % reduction as compared to projections in primary and final energy consumption in 2020. The EU is expected to meet its climate and energy targets for 2020. With existing policies (translated into a detailed, coherent legal framework) under the EU 2020 climate and energy package, the EU is expected to reduce its GHG emissions by 20 % in 2020 (compared to 1990). In 2016, the EU's GHG emission levels already equated to a 24 % domestic reduction compared to 1990[97]. According to Member States' own projections (based on existing policies and measures), the EU's GHG emissions will be 26 % lower than in 1990 levels in 2020 and 30 % lower in 2030. The EU has also adopted binding targets to lower GHG emissions by at least 40 % compared to 1990 levels as well as increase renewables to at least 32 % and energy efficiency to at least 32.5 % by 2030.

The share of **renewable energy** (in gross energy consumption) was around 17% in 2016 and is forecast to reach the 20 % target in 2020[98].

To achieve the **energy efficiency** target of 20 % by 2020, additional efforts may be needed[99][100]. While energy consumption gradually decreased between 2007 and 2014, it increased in 2015.. Energy consumption appears to have increased further in 2016 following another less warm winter while energy consumption in transport was at similar levels as in 2005, due to improvements in energy efficiency of cars, trucks and aircraft, which counterbalanced increased transport activity over this period[101].

Member States are making good progress in achieving energy savings. Collective efforts in 2015 were above the linear trajectory for achieving the required savings by 2020. It is expected that the circular economy package will contribute to reductions in GHG emissions, e.g. through the Landfill Directive. Likewise, the EU plastics strategy and the single use

[97]EEA (2017) Trends and projections in Europe 2017 – tracking progress towards in Europe's climate and energy targets (no 17/2017) and EEA(2018) Annual European Union greenhouse gas inventory 1990-2016 and inventory report 2018).

[98]https://ec.europa.eu/eurostat/web/energy/data/shares

[99]COM(2017) 57

[100]https://ec.europa.eu/energy/en/topics/renewable-energy/progress-reports and COM(687) final, "2017 assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive as required by Article 24(3) of the Energy Efficiency Directive 2012/27/EU.

[101]https://ec.europa.eu/energy/en/topics/renewable-energy/progress-reports and COM(687)final, "2017 assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive as required by Article 24(3) of the energy Efficiency Directive 2012/27/EU" and Eurostat (Statistical Pocketbook EU transport in figures 2018, p.119)

plastics initiative are also expected to reduce GHG emissions. While the national energy efficiency targets are still consistent with the EU level of ambition for final energy consumption in 2020, there is a gap in primary energy consumption.

The EU is also working towards reducing its GHG emissions by 2050 as part of a global effort (enshrined in the Paris Agreement) to limit the average temperature increase to below 2°C compared to pre-industrial levels. The EU also agreed on the climate and energy framework for 2030, which was adopted by EU leaders in October 2014 and amended in June 2018. It builds on the 2020 climate and energy package.[102] It sets three key targets for 2030:

- 40% cut in **greenhouse gas emissions** (from 1990 levels)
- 32% share for **renewable energy**
- 32.5% improvement in **energy efficiency**

The Commission proposed a climate and energy framework for 2030 to achieve a 40 % reduction in GHG emissions in 2030 compared to 1990. A reduction of at least 40 % in GHG emissions is consistent with the long-term pathway and the indicative milestones set out in the roadmap for a low-carbon economy. The 40 % target reflects the most recent (5th) Intergovernmental Panel on Climate Change (IPCC) assessment report (i.e. the required reductions for industrialised countries as a group to meet a 2 °C target) as well as developments within the UNFCCC and other relevant processes. The climate and energy framework for 2030 has three pillars addressing greenhouse gas emissions. The first is a piece of legislation that revises the EU Emission Trading System (EU ETS). This would reduce EUETS emissions by 43 % in 2030 compared to 2005. To this end, the overall number of emission allowances will decline at an annual rate of 2.2 % from 2021 onwards, compared to 1.74 % at present. This amounts to an additional emissions reduction in the sectors covered by the ETS of some 556 million tonnes over the decade.

The second part is the (Effort Sharing) Regulation to reduce emissions in the sectors outside the ETS by 30 % in 2030 compared to 2005[103]. The ETS revision and Effort Sharing Regulation together would ensure a reduction of at least 40 % in the EU's GHG emissions in 2030 compared to 1990. A regulation for the (net) emissions resulting from land use, land use change and forestry was adopted as part of the framework. In May 2018, a final agreement was reached on all three pieces of legislation.

EU ETS enables the participating companies to meet the ETS reduction in a cost-effective way. The Effort Sharing Regulation also has built in flexibility as it allows Member States to transfer emission reductions from other Member States to meet national targets for the sectors not covered by the ETS for 2030. It also allows the banking of early reductions to meet future targets. Furthermore, it allows for the (limited) use of ETS allowances.

In June 2018, political agreement was reached on a 32 % target for renewable energy and a 32.5% target for energy efficiency by 2030. The greenhouse gas and renewable targets for 2020 are expected to be met. Meeting the energy efficiency target for 2020 may require additional efforts. Evaluations (impact assessments) have been carried out as part of the preparation of the ETS (revision), the Effort Sharing Regulation and the LULUCF proposals as well as the Renewable Energy and Energy Efficiency Directives.

[102] https://ec.europa.eu/clima/policies/strategies/2020_en
[103] COM(2016) 482.

2.2 Sustainable production and consumption

Sub-objectives:

- The overall environmental impact of all major sectors of the Union economy is significantly reduced, **resource efficiency** has increased, and benchmarking and measurement methodologies are in place. Market and policy incentives that foster business investments in resource efficiency are in place, while **green growth** is stimulated through measures to promote Best Available Techniques and foster innovation;
- structural changes in production, technology and innovation, as well as consumption patterns and lifestyles have reduced the overall environmental impact of **production and consumption**, in particular in the food, housing and mobility sectors;

Actions:

- Generalising the application of '**Best Available Techniques'** in the context of the **Industrial Emissions Directive** and enhancing efforts to promote the uptake of emerging innovative technologies, processes and services;
- Giving impetus to the public and private research and innovation efforts required for the development and uptake of innovative technologies, systems and business models which will speed up and lower the cost of transition to a low-carbon, resource-efficient, safe and sustainable economy. Further developing the approach set out in the **Eco-innovation Action Plan**, identifying priorities for incremental innovation as well as system changes, promoting a larger market share of green technologies in the Union and enhancing the competitiveness of the European eco-industry. Establishing indicators and setting realistic and achievable targets for resource efficiency;
- Developing training programmes geared towards **green jobs**:
- Increasing efforts to reach existing targets and reviewing approaches to **green public procurement**, including its scope, in order to increase its effectiveness. Establishing a **voluntary green purchaser network for Union businesses**;
- Developing **measurement and benchmarking methodologies by 2015 for resource efficiency of land, carbon, water and material use** and assessing the appropriateness of the inclusion of a lead indicator and target in the European Semester;
- Establishing a more **coherent policy framework for sustainable production and consumption** including, where appropriate, the consolidation of existing instruments into a coherent legal framework. Reviewing product legislation with a view to improving the environmental performance and resource efficiency of products throughout their lifecycle. Stimulating consumer demand for environmentally sustainable products and services through policies which promote their availability, affordability, functionality and attractiveness. Developing indicators and realistic and achievable targets for the reduction of the overall impact of consumption;

Introduction

The 7th EAP target is that, by 2020, (i) the overall environmental impact of all major sectors of the EU economy is significantly reduced; (ii) emissions to air and water have been reduced; (iii) resource efficiency has increased; (iv) and benchmarking and measurement methodologies are in place; (v) market and policy incentives that foster business investments and innovation in resource efficiency are in place and (vi) green growth is stimulated through measures to foster innovation. In addition, by 2020, structural changes in production, technology and innovation, as well as consumption patterns and lifestyles, have reduced the overall environmental impact of production and consumption, in particular in the food, housing and mobility sectors.

Actions to support and accelerate Europe's transition to a clean and more circular economy are crucial components of the Commission's efforts to modernise and transform the European

economy, shifting it in a more sustainable direction while increasing its competitiveness in global markets. A clean European circular economy will offer substantial opportunities for European businesses and citizens alike: the circular model and the use of advanced and best available techniques can protect the environment, create secure jobs in Europe, promote innovations, and create competitive advantage for EU businesses.

To close the loop of product life cycles, policies that support the circular economy in each step of the value chain are needed, from production to consumption, repair and manufacturing, waste management and secondary raw materials that are fed back into the economy. The wider benefits of the circular economy also include lowering energy consumption and carbon dioxide emission levels. Circular economy principles also need to be gradually integrated into industrial best practices, green public procurement, the use of cohesion policy funds, and also through initiatives in the construction and water sectors.

Current situation

Circular economy

The Circular Economy Action Plan is a major initiative of this Commission for both the environment and industrial competitiveness. On 4th March, the Commission adopted the last of the packages completing the commitments made by this College under the Circular Economy Action Plan. All 54 actions included in the Action Plan are now either delivered or ongoing[104].

The Circular Economy Action Plan, adopted on 2 December 2015, included measures aimed at helping stimulate Europe's transition to a more circular economy, boost global competitiveness, foster sustainable economic growth and generate new jobs, and a legislative proposal on waste. It established a concrete and ambitious set of actions, with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials and a revised legislative proposal on waste.

The 2nd circular economy package, adopted in January 2017, included a report on implementation of the action plan, which has been a major step in promoting circularity in Europe. Among others, the proposal to amend Directive 2011/65/EU on the restriction of the use of certain hazardous substances aimed to enable secondary market operations (e.g. reselling, second hand market) for certain electrical and electronic equipment, and to enable the repair with spare parts of certain electrical and electronic equipment that were placed on the market before 22 July 2019.

In March 2017, the Commission established the European Circular Economy Stakeholder Platform[105]. This brings together stakeholders active in broad fields of the circular economy in Europe to share their solutions and team up to address specific challenges, while bridging existing initiatives, advocating the circular economy at national, regional and local level, and supporting its implementation**.**

In January 2018, the Commission adopted a 3rd circular economy package with a new set of measures. These include the EU strategy for plastics in the circular economy, a

[104] COM(2019) 190

[105]https://circulareconomy.europa.eu/platform/en

Communication on how to address the interface between chemical, product and waste legislation, a report on critical raw materials, and a monitoring framework for the circular economy[8].

As part of the Strategy for Plastics, the Commission launched a pledging campaign for recycled plastic contents, aiming at having 10 million tonnes of recycled plastics into new products by 2025. The campaign capitalises on the role of the private sector as co-lead in the transition to a circular industry for plastics. The pledges received from suppliers of recycled plastics, if delivered as expected, already meet this target. However, the demand for recycled plastics based on the industry pledges amounts to approximately 6.4 million tonnes per year by 2025. The recently established Circular Plastics Alliance[106] could facilitate next steps by businesses to bridge this mismatch and help achieve the above-mentioned target in line with the objective of the strategy to improve the quality and economics of plastics recycling in Europe. The proposed Directive on single-use plastic items and fishing gears was adopted by the Commission in May 2018. It is currently being discussed with the European Parliament and the Council

Furthermore, the Commission has already submitted a request to the European Chemicals Agency to start the process for restrictions, within the framework of registration, evaluation, authorisation and restriction of chemicals (REACH regulation), for microplastics intentionally added to products and oxo-degradable plastics. The restriction dossier developed by ECHA has been submitted to scientific committees RAC and SEAC.

The proposal for a new Directive on port reception facilities, presented together with the 3rd circular economy package will also ensure that ship waste is delivered to adequate port reception facilities, instead of being discharged at sea.

A communication and staff working document presented the monitoring framework for the circular economy, which aims to measure progress towards a circular economy in the EU and its Member States[107].

Sustainable products

The environmental footprint (EF) pilot phase was launched in 2013 with 3 main objectives: (i) test the process for developing product- and sector-specific rules; (ii) test different approaches to verification; and (iii) test communication vehicles for communicating life cycle environmental performance to business partners, consumers and other company stakeholders. In early 2018, the pilot phase was finalised, leading to the development of 21 product environemntal footprint category rules (PEFCRs) and two organisation environmental footprint sectoral rules (OEFSRs). The pilot phase resulted in improvements in the environmental footprint methods. The tests of communication vehicles are pointing to how to effectively communicate environmental footprint information. The tests on verification provided information on how to establish a reliable verification system. The environemental footprint transition phase (covering the period 2018-2021) has now been launched.

[106] http://europa.eu/rapid/press-release_IP-18-6728_en.htm

[107] http://ec.europa.eu/eurostat/web/circular-economy

EU legislation on ecodesign and energy labelling improves the energy and resource efficiency of products and reduces emissions, waste and energy dependency. The Commission is currently implementing the Eco-design Working Plan 2016-2019, which largely focuses on durability, reparability and upgradeability, information and ease of reuse and recycling. New measures set out under the working plan have the potential to deliver, by 2030, the equivalent of Sweden's annual energy consumption. As a result, European households can save up to EUR 500 a year on their energy bills. Moreover, this policy should deliver around EUR 55 billion per year of extra revenue for industry, wholesale and retail sectors, which supports jobs and growth in our economy.

As indicated in the circular economy action plan, the Commission has identified actions and options to deliver a more sustainable product policy framework[108]. This could help address the problem that many products in use today are not designed or produced with circularity in mind. On 4 March 2019, as part of the final package, the Commission presented a staff working document on sustainable product policy, looking at options to better articulate the various existing product policy tools at EU level and their contribution to the circular economy. The document also looks at product categories with high potential for circularity and to what extent this potential is currently being addressed by EU product policy tools.

Sustainable production

The work on sustainable buildings resulted in a communication on resource efficiency opportunities in the building sector[109]. This was followed by technical work to develop a tool for the mainstream market in order to assess the sustainability performance of buildings. The tool, called Level(s), was published in 2017. In April 2018, the Commission published a set of documents to support the test phase of Level(s) and opened up a registry for testers.

The number of organisations and sites registered with the EU Eco-Management and Audit Scheme (EMAS) has remained stable in recent years. Progress has been made with the adoption of the EMAS sectoral reference documents on best environmental management practice. These, provide guidance and inspiration to organisations in specific sectors on how to further improve environmental performance.

The evaluation completed in 2017 concluded that EMAS is fit for purpose, its contribution is limited because of the low level of uptake caused by (i) limited awareness by external stakeholders about the benefits of EMAS; and (ii) organisations not getting enough reward for participation. The Commission is working with Member States to boost EMAS' contribution to the circular economy and to sustainable production.

Environmental Technology Verification (ETV) contributes as new environmental technologies often fail to gain a foothold on the market simply because they are new and untried. ETV aims to improve the situation by providing third-party evidence, derived from credible and scientifically sound procedures, that technologies perform as claimed. A support study to the evaluation of the ETV pilot programme in 2017-2018 shows that the programme can be a thorough and robust system, providing SMEs with a verified technology with a competitive advantage and contributing to an increase of sales for verified technologies, but

[108] SWD(2019) 91
[109] COM(2014) 445.

poor visibility of the programme and perceived complexity of the process limit its current uptake.

Sustainable Consumption

The EU Ecolabel continued being implemented and developed according to the EU Ecolabel Work Plans (2011-2015) and (2016-2018) agreed with the Member States. As of September 2018, the number of EU Ecolabel licence holders reached 2.167 and the number of products available on the market 72.227. The Fitness check of the EU Ecolabel regulation (and of the EMAS Regulation) carried out as part of the European Commission's Regulation Fitness and Performance Programme (REFIT) was completed in June 2017 and confirmed the useful – even if limited – role of the scheme as voluntary instruments for businesses. The conclusions of the Fitness check suggested the need for a more strategic approach for the EU Ecolabel accompanied with intensive communication and promotional activities, in cooperation with the Member States. In October 2018, the development of EU Ecolabel criteria for financial products was launched.

Although green public procurement (GPP) is a voluntary instrument, it has a key role to play in the EU's efforts to become a more resource-efficient economy. The Commission has published new voluntary EU GPP criteria for a number of products, and all GPP criteria sets now include requirements with circular economy relevance. The EU GPP policies encourage Member States to take further steps to achieve the target of applying GPP criteria to at least 50 % of public tenders. Across the EU, public authorities have not yet been using this possibility to its full extent.

The New Deal for Consumers package[110] in 2018 addresses issues such as misleading environmental claims, environmental information for consumers and premature obsolescence. Contribution was also made to the behavioural study on consumers' engagement in the circular economy, in particular related to eco-design and the durability and reparability of products.

As part of EU global efforts to achieve sustainable consumption, the EU has contributed to the work of the One Planet Network, the 10-Year Framework of Programmes on Sustainable Consumption and Production (SCP), which supports the global shift to SCP, and the achievement of Sustainable Development Goal12.

Industrial emissions

The Industrial Emissions Directive is the primary EU legal instrument used to regulate industrial emissions. The European Integrated Pollution Prevention and Control Bureau of the Joint Research Centre prepares the Best Available Techniques (BATs) reference documents (BREFs). This process involves all stakeholders participating in an evidence-based process. BREFs contain BAT conclusions that are given legal force and must be taken into account by competent authorities when issuing permits.

Beyond making the use of BAT more widespread, the Industrial Emissions Directive also seeks to promote continuous improvement by promoting emerging techniques. To this end, BREFs include a section on emerging techniques. However, a review of existing BREFs concluded that reaching out to a specialised community would substantially improve

[110] COM/2018/0183

available information on emerging techniques and further amplify this effect, including through linking EU funding opportunities. To this end, the Commission established a three-year pilot Industrial Emissions Innovation Observatory in 2017 to test ways for enhancing the innovation incentives provided by BREFs.

Low-carbon economy

The EU has adopted binding, economy-wide targets that rely on two main instruments: the EU Emissions Trading System, which covers around. 45 % of EU GHG emissions from the power sector, industry, and aviation; and the Effort Sharing Regulation, which covers over 50% of EU GHG emissions from sectors such as transport, buildings, agriculture and waste[111]. Furthermore, the EU has adopted a regulation[112] that includes GHG emissions and removals from land use, land use changes, and forestry in the 2030 climate and energy framework to ensure that no additional emissions from these sectors are created[113]. The EU also supports innovation with its NER300 funding programme[114] and Innovation Fund[115].

EU Emissions Trading System (ETS)

The EU Emissions Trading System (EU ETS) has guaranteed cost-efficient emission reductions in the relevant energy and industry sectors and has become a role model for other emissions trading schemes outside the EU. It is important to highlight that, when faced with increased global competition, European installations are more energy-efficient than most international competitors.

The revised post-2020 architecture for the EU ETS, formally approved by the Council in February 2018, will guarantee a 43 % reduction in emission in the sectors covered by 2030 compared to 2005. This renewed legislation will also provide the necessary predictability and stability for industry until 2030, thereby supporting the regulatory environment for fostering investments.

Free allocation will be continued as a safeguard measure against the risk of carbon leakage until comparable climate policy measures are undertaken by other countries in such a way that energy-intensive industries receive an appropriate level of support so they are encouraged to become the best-performing players in the sector. Free allocation lowers the effective carbon cost for industry and retains financial resources that can be used to invest in low-carbon technologies. Free allocation is based on EU-wide benchmark values that provide incentives to reduce GHG intensity.

The sectors exposed to the risk of carbon leakage will receive 100 % of free allowances up to the level of the benchmark. Sectors that are not on the carbon leakage list will receive 30 % of the free allocation for 2021-26, decreasing to 0 % over 2027-2030.

The Effort Sharing Regulation

EU Member States have binding annual GHG emission targets for 2021-2030 for those sectors of the economy that fall outside the scope of the EU ETS. These sectors are transport,

[111] Background studies can be found here: https://ec.europa.eu/clima/policies/effort_en)
[112] Regulation (EU) 2018/841
[113] Background studies can be found here:. https://ec.europa.eu/clima/policies/forests/lulucf_en#tab-0-2
[114] https://ec.europa.eu/clima/policies/innovation-fund/ner300_en
[115] for the NER300 evaluation see:
https://ec.europa.eu/clima/sites/clima/files/lowcarbon/ner300/docs/sec_2010_1320_en.pdf. For the innovation fund impact assessment see: https://ec.europa.eu/clima/sites/clima/files/innovation-fund/swd_2019_85_en.pdf).

buildings, agriculture, non-ETS industry and waste, and account for almost 60 % of total domestic EU emissions. Sectors of the economy not covered by the EU ETS must reduce emissions by 30 % by 2030 compared to 2005 as their contribution to the overall target. The Effort Sharing Regulation translates this commitment into binding annual GHG emission targets for each Member State for 2021-2030 based on the principles of fairness, cost-effectiveness and environmental integrity.

The LULUCF Regulation
Under EU legislation adopted in May 2018, EU Member States have to ensure that GHG emissions from land use, land use change or forestry are offset by at least an equivalent removal of CO_2 from the atmosphere in 2021-2030. This regulation is in line with the Paris Agreement, which points to the critical role of the land use sector in reaching long-term climate mitigation objectives.

The EU long-term strategy for decarbonisation ('the 2050 strategy')
In March 2018, the European Council asked the Commission to present, within 12 months, '*a proposal for a Strategy for long-term EU greenhouse gas emissions reduction in accordance with the Paris Agreement'.* The same was requested by the European Parliament.

In November 2018, the Commission presented its strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy by 2050. To prepare for this proposal, the Commission carried out a public consultation in summer 2018, seeking input from citizens and stakeholders.

Energy Union governance and climate action
The European Council decided in 2014 that a governance system was needed for the EU to meet its energy and climate targets. In 2018, the Regulation on Energy Union and Climate Action Governance was adopted. National energy and climate plans (NECPs) will be a new instrument and will serve as the basis for Member States to report every 2 years on their progress in contributing to the EU level target (e.g. for renewables). Member States are required to develop national plans that cover all five dimensions of the Energy Union for 2021 to 2030 (and every subsequent ten-year period) based on a common NECPs template to ensure comparability. All Member States have submitted draft plans[116]. The Commission is assessing these plans and may issue recommendations to countries by 30 June 2019 to amend the draft NECP. Member States then have until the end of 2019 to submit their final NECP.

Eco-innovation/SMEs
Since 2011, eco-innovation has been supported by a range of initiatives under the eco-innovation action plan[117]. The aim has been to foster the market uptake of eco-innovation in seven dedicated action areas: 1) environmental policy and regulations; 2) demonstration projects; 3) standards and performance targets; 4) finance and support services for SMEs; 5) international cooperation; 6) green skills and jobs; and 7) European innovation partnerships. Eco-innovation is a key element in environmental policy, because it links economic development with minimising resource use and protecting the environment, creates jobs and

[116] The draft plans submitted to the Commission are available at: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/governance-energy-union/national-energy-climate-plans
[117] https://ec.europa.eu/environment/ecoap/frontpage_en

improves company competitiveness. It also helps achieve better compliance with environment legislation.

Horizon 2020 is the main funding programme for eco-innovation activities, with the LIFE programme also providing support. Other programmes such as COSME (the EU programme for small and medium-sized enterprises), the European structural and investments funds (in particular the European regional development fund), as well as funding schemes provided by the European Investment Bank and the European Investment Fund also offer funding opportunities for eco-innovation. The EU also promotes and shares best practices.

Small and medium-sized enterprises (SMEs) are key partners in environmental policy because of both their economic importance and also the cumulative impact of their activities on the environment. In many areas SMEs are also well placed to help address environmental challenges by proposing innovative solutions, services and products. That is why the EU has been integrating SME aspects into policy considerations, treating them as a specific body with targeted communication, support and treatment. As SMEs are a diverse and large group, we primarily work with intermediaries.

The EU also promotes resource efficiency, circular economy, eco-innovation and participation in green markets among SMEs. The aim is to make SMEs better placed to engage in and benefit from related actions. To ensure their buy-in, it is crucial that the business advantages of these actions are presented in a convincing way.

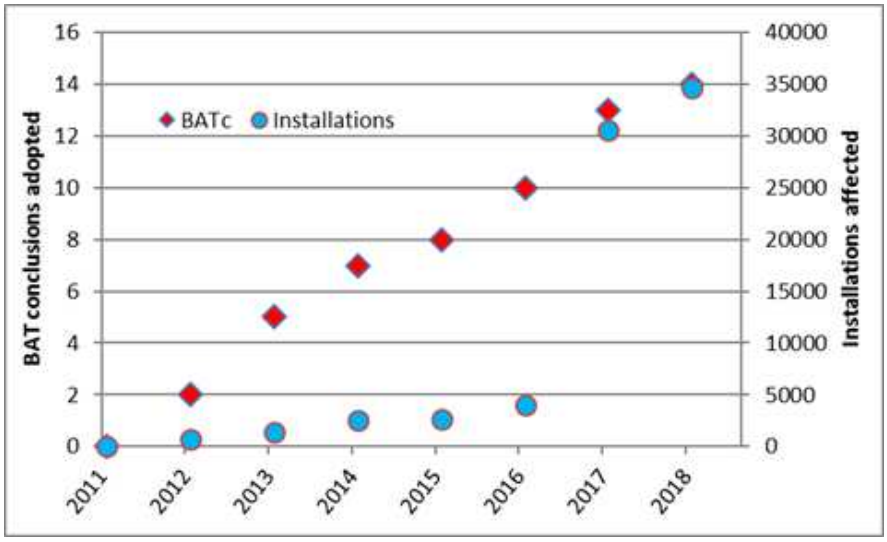
The flagship initiative is the Green Action Plan for SMEs[118] , which the EU has been implementing since 2014. It aims to (i) improve resource efficiency of European SMEs; (ii) support green entrepreneurship; (iii) exploit the opportunities of greener value chains; and (iv) facilitate market access for green SMEs. It contains 39 measures, funded by different EU programmes and progressing at different speeds.

Are we on track to meet the 7th EAP's objectives and sub-objectives?

The EU is on track to make the use of BATs more widespread' in major industrial plants in Europe. By summer 2018, 14 sets of BAT conclusions had been adopted for 65% of the 55 000 plants covered by the Industrial Emissions Directive, including large combustion plants.BAT conclusions are being drawn up for eight further sectors. By the end of 2020, work will have been launched or completed on sets of BAT conclusions that cover the remaining sectors.

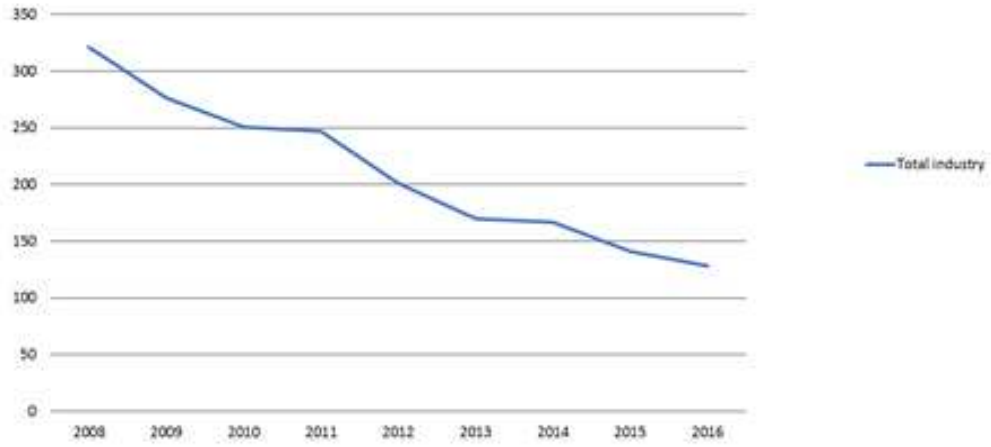
Figure 6: BAT coverage

[118] http://ec.europa.eu/growth/smes/business-friendly-environment/green-action-plan_en



Pressure indicator: Trend of emissions to air and water from installations falling under the Industrial Emissions Directive (Source: E-PRTR) that cover air and water emissions by GVA from main E-PRTR sectors from all Member States for relevant pollutants

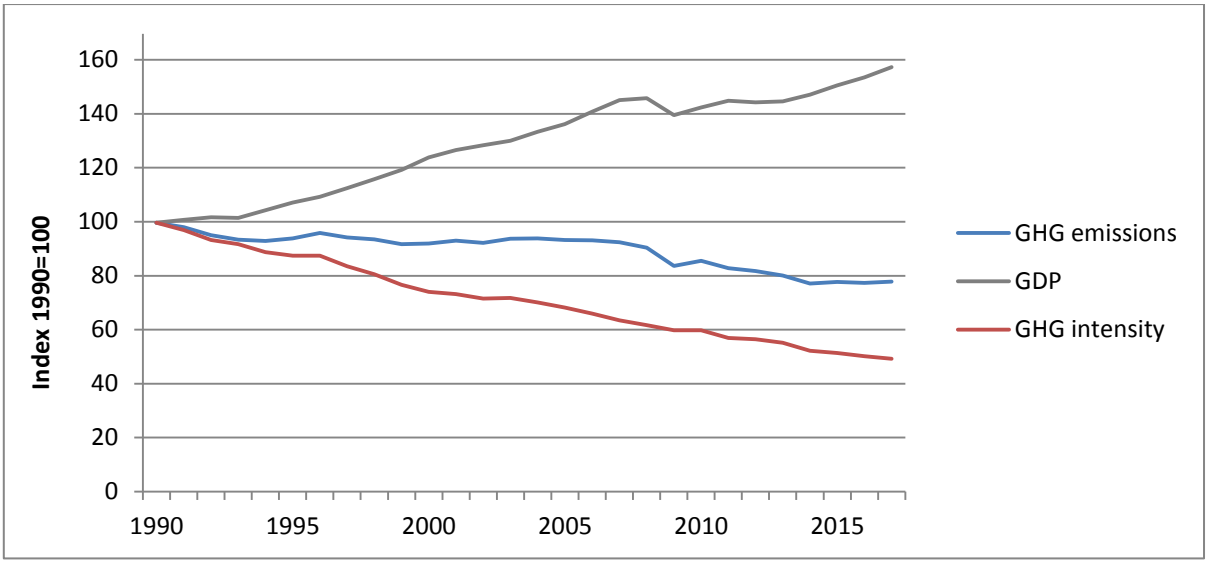
Figure 7: Industrial pollution to air intensity (tonnes of pollution per unit GVA)



All sectors (power generation, industry, transport, buildings, construction, agriculture and waste) need to contribute to the low-carbon transition according to their technological and economic potential. The EU succeeded in cutting emissions by 23 % between 1990 and 2016, while the European economy grew by 53 % over the same period.

Figure 8: Emissions intensity, indexed[119]

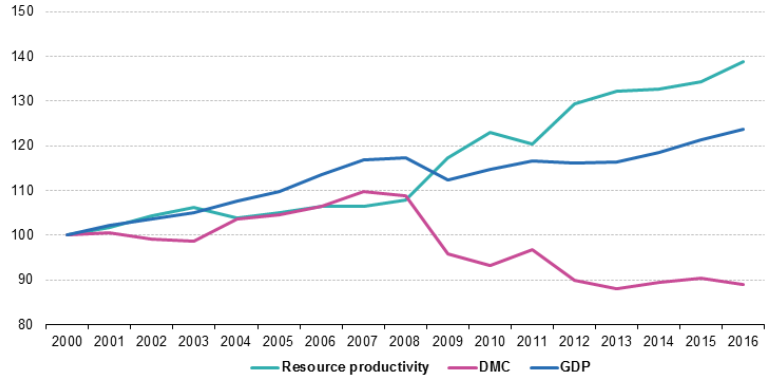
[119] 2018 climate action progress report: *EU and the Paris Climate Agreement: Taking stock of progress at Katowice COP* (COM/2018/716)



The EU Eco-innovation Index and Scoreboard track action and output related to eco-innovation in all EU Member States. The findings indicate that promising eco-innovations can be seen across the EU and have the potential to be scaled-up. However, there has been uneven progress across different Member States. Most efforts also seem to be concentrated in individual markets or market niches instead of bridging the full circular model from design to disposal.

Resource productivity is measured as gross domestic product (GDP)[120] over domestic material consumption (DMC)[121]. Resource productivity in the EU-28[122] economy increased by 38.8 % between 2000 and 2016. Starting from the economic crisis (4.3 % fall in GDP in 2008-2009), the significant increase in resource productivity (28.5 %) in 2008-16 was caused mostly by an 18.1 % fall in DMC over the same period. The crisis affected the material-intensive industries of manufacturing and construction more than the services industries. Material consumption therefore fell more than GDP, which started to recover from 2009.

Figure 9: Resource productivity



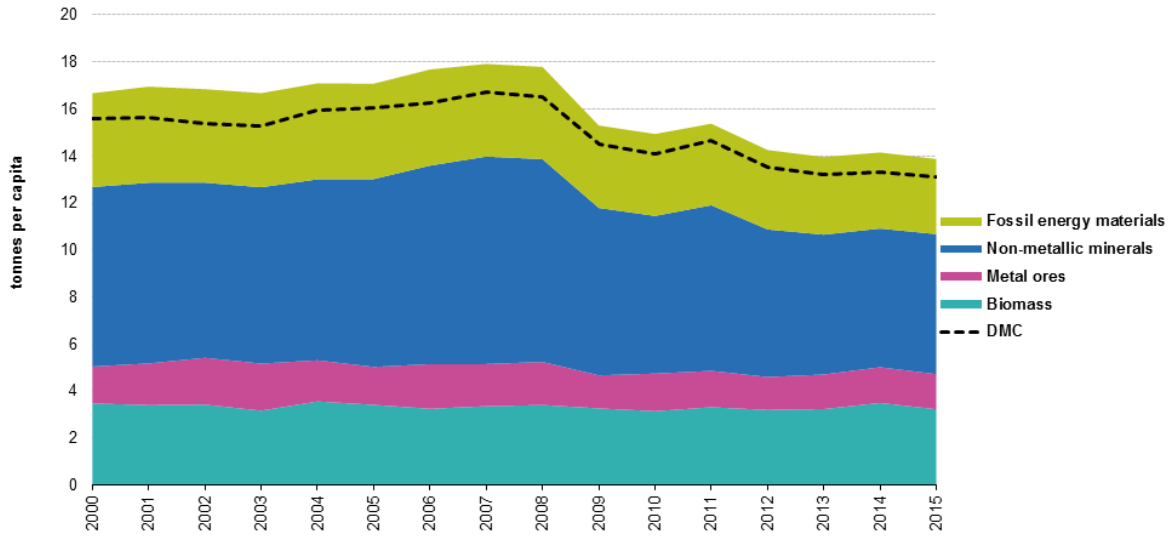
Note: GDP in chain-linked volumes, reference year 2010

Source: Eurostat (online data codes: nama_10_gdp, env_ac_mfa)

[120] https://ec.europa.eu/ _(GDP)
[121] https://ec.europa.eu/ umption
[122] https://ec.europa.eu/

EU raw material consumption, also referred to as the EU's material footprint, represents the total amount of extracted raw materials needed to produce the goods and services consumed by EU residents. The derived global material footprint, also referred to as raw material consumption, was 13.9 tonnes per capita in the EU in 2015 and 5.6 % higher than DMC.

Figure 10: Raw material consumption / material footprint[123]



Source: Eurostat (online data codes: env_ac_mfa, env_ac_rme, demo_gind)

Summary

State of implementation of the policy area
☐ No progress

[123] http://ec.europa.eu/eurostat/statistics-explained/index.php/Material_flow_accounts_statistics_-_material_footprints

☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

In 2014-2020, progress has been made in turning the EU into a resource-efficiency, greener and more competitive low-carbon economy. Promoting the concept of circularity is a first step in establishing a long-term commitment to a European circular economy and to further decoupling economic growth from resource use.

Making more widespread use of BATs by all major EU industrial plants is on track and is already delivering substantial reductions in emissions to air and water while promoting resource efficiency and circularity. Furthermore, the pilot phase of the Industrial Emissions Innovation Observatory will be completed in 2020. This will enables us to draw lessons on how to better promote the up-scaling of emerging techniques.

In the given period, activities to support SMEs on the circular economy, resource efficiency and eco-innovation has been stepped up. As a result, there have been gradual improvements in the related performance of SMEs. Further efforts will be needed to increase the effectiveness of activities and to reach out also to geographic regions and sectors that are performing much worse than frontrunners or the mainstream. Activities related to eco-innovation were being carried out through general and sectoral policies.

2.3 Waste

Sub-objectives:

- Waste is safely managed as a resource and to prevent harm to health and the environment, absolute waste generation and waste generated per capita are in decline, landfilling is limited to residual (i.e. non-recyclable and non-recoverable) waste, having regard to the postponements provided for in Article 5(2) of the Landfill Directive and energy recovery is limited to non-recyclable materials, having regard to Article 4(2) of the Waste Framework Directive;

Actions:

1. Full implementation of EU waste legislation.
2. Reduction of waste generation and in particular food waste
3. Waste recycling targets are reviewed and high quality recycling is achieved
4. Recycling barrier are addressed and markets for secondary raw materials are developed
5. Non-toxic materials cycles are achieved
6. Market-based instruments including EPR are applied
7. Limiting energy recovery to non-recyclable waste
8. Phase out landfilling of waste
9. Hazardous waste (HW) is safely managed and generation reduced
10. Public information campaigns are required to build awareness and understanding of waste policy and to stimulate a change in behaviour

Introduction

The 7th EAP aims to drive a sustainable and resource efficient economy within the EU. The programme focuses on the circular economy and the 'need for a framework that gives appropriate signals to producers and consumers to promote resource efficiency', with the objective of seeing waste as a resource. Full implementation of the EU waste legislation is a cornerstone of the programme.

Current situation

The new EU legal framework

Since the programme was adopted, the Commission has made substantial progress in providing an approved legal framework for the rapid transition of the EU towards a circular economy. It has also continued to carry out actions to address the existing implementation gap amongst Member States.

One of its biggest achievements was the adoption of the new **circular economy package.** The actions set out in the package will help 'closing the loop' of product life cycles through greater recycling and re-use, and will benefit both the environment and the economy.

As part of its circular economy package, the Commission presented new legislative proposals on modern waste management in Europe which were identified by the European Parliament, the Council and the Commission as a joint legislative priority. In May 2018, ambitious environmental objectives and targets were adopted by the European Parliament and the Council. These include higher recycling targets for municipal waste (55 % by 2025, 60 % by 2030 and 65 % by 2035) and an overall target for packaging waste (65 % by 2025 and 70 % by 2030) with individual targets for the following by 2025 and 2030: plastic (50-55 %), wood (25-30 %), ferrous metals (70-80 %), aluminium (50-60 %), glass (70-75 %), and paper and cardboard (75-85 %). By 2035, the amount of municipal waste landfilled must be reduced to 10 % or less of the total amount of municipal waste generated.

Building on the existing separate collection obligation for paper and cardboard, glass, metals and plastic, new separate collection rules will boost the quality of secondary raw materials and their uptake: hazardous household waste will have to be collected separately by 2022, bio-waste by 2023 and textiles by 2025.

The new legislation fosters the use of effective economic instruments and other measures in support of the waste hierarchy. Minimum extended producer responsibility requirements will lead to better performance and governance of these schemes. Mandatory extended producer responsibility schemes have to be established for all packaging by 2024. It also focuses on waste prevention and introduce important objectives in relation to food waste in the EU and halting marine litter in order to contribute to the UN Sustainable Development Goals in these two areas. Furthermore, it sets a number of priorities for the coming years through review clauses for the End-of-Life Vehicles Directive in 2020, waste oil recovery targets (2022)and food waste reduction targets (2023), including a major review of the waste legislation in 2024.

Regularly, the RoHS Directive (2011/65/EU) is modified to introduce new prohibited substances. For example, as of July 2019, the RoHS Directive will thus restrict the use of total ten **hazardous substances** in electrical and electronic equipment, further contributing to minimising the content of hazardous chemicals in products, the reuse of products/ preparation of reuse of waste.

Waste prevention is also promoted with, for example, the recast Waste Electrical and Electronic Equipment (WEEE) Directive. Producers are obliged to promote product design and related information to facilitate reuse and repair. Aspects such as durability, reparability and recyclability of products are also being considered when drawing up or reviewing requirements under the Directive - 2019/125/EU on eco-design.

Another way to prevent the generation of waste in Member States is by adopting and implementing meaningful waste prevention programmes as requested in Directive 2008/98/EC on waste. The European Environmental Agency has assessed such programmes for compliance. The promotion of the reuse of products is a key area in the prevention of waste and should be part of these waste prevention programmes. Under the recast WEEE Directive, producers are to provide relevant product-related information to help reuse operators prepare, as well as encourage product design and related information that facilitate reuse and repair.

EU legislation has also been adopted in other areas such as **ship recycling**. The EU Regulation[124] adopted in 2013 is designed to reduce the negative impacts linked to the recycling of ships flying the flag of Member States. It brings forward the requirements of the 2009 Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships, and includes additional safety and environmental requirements as authorised by the Convention. Pursuant to this Regulation, the Commission adopted the first EU list of ship recycling facilities in December 2016, which is updated regularly[125]. To be included in the list, facilities need to comply with certain minimum environment and safety requirements. Since 31 December 2018, large commercial seagoing vessels flying the flag of an EU Member State may be recycled only in ship recycling facilities included in this list.

In accordance with the 2014 amendment of the **Waste Shipment Regulation**, by 2017 Member States had established inspection plans that include a minimum set of elements and are based on a risk assessment that covers specific waste streams and sources of illegal shipments. It is expected that in the coming years the effect of these inspection plans in reducing illegal waste shipments will become increasingly visible. In line with legal requirements, an evaluation of the Waste Shipment Regulation is scheduled by the end of 2020. As a preparatory step, the Commission is in the process of preparing an evaluation of the Regulation to identify the good and bad practices in its implementation and to assess whether it has met its objectives using a set of criteria. In support of this evaluation, an 18-month study was launched in April 2017. This includes various actions, including workshops as well as public and targeted stakeholder consultations.

Waste electrical and electronic equipment generated in the EU in 2014 was estimated to be around 10 million tonnes (0.4 % of the total waste produced), and is expected to grow to more than 12 million tonnes by 2020. This waste stream is a complex mixture of materials and components. It includes various substances, which, if not properly managed, pose high risks to the environment and human health. Moreover, production of modern electronics requires the use of scarce and valuable resources, illustrating the importance of eco-design and prevention for this waste stream.

The recast WEEE Directive aims to further improve the collection, treatment and recycling of electronics at the end of their life. In 2013-2015, the amount of waste equipment collected

[124] Regulation (EU) No 1257/2013
[125] http://ec.europa.eu/environment/waste/ships/list.htm

from private households in the EU-28 grew by 8 %. The new ambitious collection targets, together with the broadening of the Directive's scope, from August 2018 and preparation for reuse/recycling targets, represent considerable challenges for the Member States., This is why the Commission has focused on promoting targeted compliance in this area.

As stated above, **the Packaging and Packaging Waste Directive** was reviewed as part of the circular economy waste package. This resulted in more ambitious reuse/recycling targets for 2030 as well as provisions on waste prevention and littering and making extended producer responsibility compulsory at EU level.

In terms of the effectiveness of the Directive, the average overall packaging recycling rate in the EU has steadily increased since 2005 (65.7 % in 2015). However, packaging waste grew by 6 % across the EU between 2013 and 2015, suggesting that more effort is needed on waste prevention. In 2015, total packaging waste in the EU amounted to around 85 million tonnes, which is around 3.5 % of the total waste generated. The more ambitious overall recycling targets for packaging introduced by the 2018 review of the Directive will require increased efforts across the EU to organise separate collection schemes more efficiently in order to capture more recyclables, including through improved extended producer responsibility schemes.

On **extractive waste,** the Commission has contracted a study on the elaboration of guidance on best practices in extractive waste management plans to foster the prevention and reduction of extractive waste production and its harmfulness as well as the recovery of extractive waste by means of recycling, reusing or reclaiming such waste. The study was published in March 2019. In addition, the Commission has organised an exchange of information to identify Best Available Techniques for the management of wastes from the extractive industries. The results of this information exchange was published in December 2018.

As being the main source of the serious environmental threat of marine litter, **plastic waste** has been prioritised in the Commission's agenda as an area that needs to be addressed urgently. The Directive 2015/720/EU on plastic carrier bags, which aims to substantially reduce the consumption of lightweight plastic carrier bags, is now transposed in all Member States. Success can already be noted in some Member States as a result of the instruments introduced, charging (in most cases) or bans. Following the 2018 EU plastic strategy, which forms part of the circular economy action plan, the Commission adopted a proposal for a directive on reducing the impact of certain plastic products (single use plastics and fishing gear) on the environment in May 2018. The objective is to prevent and reduce the impact of single-use plastics on the environment, in particular the aquatic environment, and on human health. It also aims to promote the transition to a circular economy with innovative business models, products and materials, thereby also contributing to the efficient functioning of the single market.

Classifying waste correctly is the first step to sound management of waste. For this reason, the Commission adopted guidelines in 2018 on the correct interpretation and application of EU legislation on the classification of waste. It covers a comprehensive overview of relevant EU legislation, gives examples of waste types for which classification is considered difficult by stakeholders, and provides step-by-step information on how to assess whether waste displays hazardous properties and on how to classify it.

In particular, **hazardous waste**, although it represents only 3 % of all generated waste, can have a considerable impact on human health and the environment. A 2017 study on behalf of

the Commission found out that the quality and effectiveness of hazardous waste management practices is not uniform in the EU and the authorities are not always able to properly follow and control such waste. How Member States perform in implementing the waste hierarchy for hazardous waste varies and could be improved. Other serious implementation and enforcement challenges include inadequate planning, data inconsistencies and statistical gaps between generation and treatment, or misclassification of waste.

On the achievement of non-toxic material cycles, work has been undertaken to address the **interface of chemical, product and waste legislation**. Some chemicals found in waste can hamper recycling, while others are hazardous to humans or the environment. A recent communication[126] addresses the different challenges, options and actions necessary to help 'closing the loop' of product life cycles through greater re-use and recycling to the benefit of both the environment and the economy. The aim is to extract the maximum value and use from all raw materials, products and waste, fostering energy savings and reducing greenhouse gas emissions while activating secondary raw materials markets.

In line with the EU circular economy, the Energy Union, the EU commitments under the Paris Agreement and the 2030 Agenda for Sustainable Development, the Commission adopted a communication on the role of **waste to energy**[127] in setting policy objectives. As governed by the waste hierarchy, waste that cannot be recycled should be subject to energy recovery processes in order to extract the energy and materials embedded in it. The communication sets a priority of choices for waste-to-energy processes available with the most energy efficiency (e.g. combined heat and power) and where materials can also be extracted (e.g. co-incineration in cement kilns, and anaerobic digestion of biodegradable waste). It warns about overcapacities of capital-intensive energy recovery infrastructure with a long lifespan (e.g. incinerators) that may hamper the recycling of waste.

Are we on track to meet the 7th EAP's objectives and sub-objectives?

Addressing the implementation gap

Focused action has been undertaken on the legal implementation front, namely, on municipal waste, hazardous waste, electric and electronic waste, scrapped vehicles and extractive waste. In the case of **municipal waste**, this represents around 10 % of the total waste generated in the EU. However, it is one of the most complex streams to manage due to its diverse composition, fragmentation of responsibilities and large number of waste producers. In 2016, an average European citizen generated 480kg of municipal waste, 3kg more than in 2013 although the EU average recycling rate (including composting) was at 46 % , a 3 % improvement since 2013; the average landfilling rate was 24% - falling by 18% since 2013. There are still large differences across the EU: in 2016, 10 Member States still landfilled over 50 % of municipal waste, while 4 Member States reported rates higher than 70 %.

As stated in the revised EU waste legislation, the Commission will issue an '**early warning report'** 3 years before the recycling targets are due. This assessment has already been carried out on the 2020 municipal waste recycling target. The Commission identified that 14 Member States are at risk of missing the target. Depending on the specific problems and needs of each Member State and how far they are from achieving the 2020 target, national and local authorities should implement country-specific key priority actions. Some of these actions include effective separate collection schemes, efficient extended producer responsibility

[126] COM(2018) 32
[127] COM(2017) 34

schemes, economic instruments such as landfill and incineration taxes, efficient use of EU funds to support the waste hierarchy, as well as improved data quality.

On waste electrical and electronic equipment 6.21 kg of waste equipment per inhabitant was collected from private households on average in 2014, against the then valid target of 4 kg per inhabitant, which was met by 23 Member States. Some Member States collected as much as 12 kg while some still missed the target by a wide margin. From 2016, each Member State has to comply with a collection target of 45 % of equipment sold and, as a second step from 2019, a target of 65 % of equipment sold, or 85 % of electronic waste generated each year. Meeting the final collection target will correspond to around 10 million tonnes or roughly 20 kg per capita of waste in 2020.

On **packaging waste**, most Member States comply with current overall recycling targets, although 2 Member States missed them by a wide margin. Several Member States fell behind on one or more material-specific targets: 1 for paper and cardboard, 4 for wood, 2 for metal, and 7 for glass.

To address the existing **implementation gap**, the Commission has been holding conducted compliance assistance seminars since 2012. These target 18 Member States with poor and average waste management. The Commission has issued roadmaps based on successful waste management methods implemented in frontrunner Member States and adapted to each individual case. The roadmaps feature where relevant the use of economic instruments such as landfill taxes, pay-as-you-throw schemes and minimum requirements for extended producer responsibility. Targeted compliance promotion initiatives have also been carried out on **hazardous waste** and specific waste streams, such as **waste electrical and electronic equipment, scrapped vehicles and extractive waste**. These have resulted in recommendations and good practice examples to Member States, as well as the identification of follow-up actions to further support implementation.

In parallel, the Commission has also used EU funds to address the **investment gap** that exists in some Member States. Particular attention has been paid to fulfilment of the waste enabling conditions designed to ensure that Member States that present waste management projects for co-funding meet the legal obligations related to waste management plans and waste prevention programmes and have taken measures to meet the 2020 recycling targets. The Commission has prioritised funding projects that tackle waste management at the highest ranks of the waste hierarchy (waste prevention, separate collection and recycling). It has also rejected some projects that could lead to overcapacities of infrastructure involved in treating residual waste and therefore hamper recycling in Member States.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Overall, there has been **significant progress** in the EU legal framework and **some progress** in the overall implementation of EU waste legislation across the EU. However, further efforts and actions in both fields are still needed: in the former, to develop secondary legislation (implementing and delegated acts); in the latter, more legal, technical and financial help targeted at individual Member States to improve their waste management systems.

At EU level, overall statistics show that EU waste legislation is driving considerable improvements in waste management. However, an implementation gap still exists among Member States. The causes range from governance issues and, insufficient public and/or private investments and initiatives through to the absence of integrated and functional waste management systems. To make progress in these Member States, full implementation of EU waste legislation is crucial to reap the environmental and economic benefits of the circular economy and compete in a world of increasingly scarce resources.

Good progress is possible if the Member States concerned take urgent action to implement the actions identified in the report on EU waste legislation adopted in September 2018 and the accompanying country-specific reports. Sound integrated waste management systems start with robust separate collection in place as a precursor to quality recycling. This together with efficient extended producer responsibility schemes and economic instruments such as landfill and incineration taxes are all crucial to ensuring compliance with EU waste legislation.

Some Member States have proved that it is possible to improve significantly their waste management. Although further action is required in waste management, this cannot be detached from actions in the production phase.

3 PRIORITY OBJECTIVE 3: To safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing

3.1 Air quality

Sub-objectives:

- Air pollution and its impacts on ecosystems and biodiversity are further reduced with **the long-term aim of not exceeding critical loads and levels**;
- Outdoor air quality in the Union has significantly improved, moving closer to **WHO recommended levels**, while indoor air quality has improved, informed by the relevant WHO guidelines;

Actions:

- Strengthening efforts to reach full compliance with **Union air quality legislation and defining strategic targets and actions beyond 2020**;
- **Implementing an updated Union air quality policy**, aligned with the latest scientific knowledge, and developing and implementing measures to combat air pollution at source taking into account the differences between the sources of indoor and outdoor air pollution;

Introduction

Air pollution has serious and harmful effetcs on human health, from respiratory and cardiovasculary diseases to premature deaths, and contributes to eutrophication.

The EU's overall objective is to safeguard citizens from environment-related pressures (in this case, air pollution) and risks to health and well-being. This translates into three key topics in the air policy area: (i) air quality standards regarding the concentration levels of air pollutants in the ambient air; (ii) air emission reduction targets at national level; and (iii) emission standards for key pollution sources.

Building on EU action over the past few decades to reduce air pollution and improve air quality, the 7th EAP re-confirmed a two-fold objective to further reduce air pollution with the long-term objective of not exceeding critical loads and levels (i.e. maximum levels that ecosystems can tolerate without degrading), and moving European outdoor and indoor air quality closer to World Health Organisation (WHO) recommended levels.

Current situation

The EU clean air policy follows a three-pronged approach aimed at protecting citizens across the EU from significant adverse impacts – as outlined in two communications on a 'clean air programme for Europe' of 2013, and a 'Europe that protects: clean air for all' of 2018.[128]

1. Ambient air quality standards have been established for 12 key air pollutants deemed to be most relevant. The Ambient Air Quality Directives were used to set these standards. Over the past 5 years, key outputs have included amendments to the legislative framework by way of Directive 2015/1480/EC to further improve harmonised monitoring and reporting of air quality as well as acceleration of the implementaton and enforcement action to meet air quality standards.
2. The National Emission Ceilings Directive set national emission limits for the most important trans-boundary air pollutants to reduce emissions and concentrations. Over the past 5 years key outputs have included agreed revised targets per Member State for 2025 and 2030 by way of Directive 2016/2284 as well as the publication of the First Clean Air Outlook to track progress towards air emission reduction objectives.
3. Emission standards for key pollution sources have been established e.g. through legislation on fuel quality, vehicle emissions, or industrial emissions. Over the past 5 years emission standards for new medium combustion plants have been adopted; several BAT conclusions have been agreed for key sectors (including for large combustion plants; waste treatment; pigs and poultry; mineral oil and gas; pulp, paper and board), plus new emission testing for cars under real-world conditions and a strengthened framework for the type-approval of vehicles have been introduced.

In addition, the last 5 years have seen an acceleration of the implementation support mechanism, including the launch of the Clean Air Forum and Clean Air Dialogues. Significant funding has been made available through various EU funding streams to faciliate invetsments with direct and/or indirect air quality benefits. This includes EUR 1.8 billion to support air quality measures under the European structural and investment funds, with further indirect contributions.

Over the past 5 years, the EU's clean air policy has made further progress towards reducing air pollution and improving air quality. However, this is not enough so to secure outdoor air quality throughout the EU and meet agreed air quality standards, let alone move closer to the levels recommended by the WHO or not exceed critical loads and levels for ecosystems.

In 2000-2015, emissions of key air pollutants decreased by between 8 % (ammonia) and 72 % (sulphur dioxide) largely thanks to EU measures on fuel quality, vehicle emissions and

[128] COM(2013) 918; COM(2018) 330.

industrial emissions. At the same time, however, 23 Member States (and more than 130 cities) reported exceeding at least one air quality limit value set in the Ambient Air Quality Directive (which for most pollutants are not as stringent as the levels recommended by the WHO).

The 2013 clean air programme for Europe, the revised national air emission targets agreed in 2016, as well as better implementation support and enforcement efforts by the Commission outlined in Communication 2018/330 have put the EU on track to achieve a reduction in health impacts (by more than 50%) and move closer to the levels recommended by the WHO by 2030.

On indoor air pollution, following the Council's recommendation on smoke-free environments (2009/C 296/02), the Commission published a staff-working document in 2013 on implementation of the recommendation and continues to monitor the implementation, functioning and impacts of its measures[129]. In 2016, it also adopted a proposal to amend the Directive on the protection of workers from the risks related to exposure to carcinogens or mutagens at work[130]. The proposal aimed to improve workers' health protection, while increasing the effectiveness of EU legislation in this area and providing more clarity and a better level playing field for economic operators. Apart from these deliverables, the Commission does not intend to launch any new initiatives in this area during the current mandate. The table below from the European Environment Agency's 2017 Environmental Indicator Report provides an overall overview of the current situation on air quality in the EU.

Figure 11: Air quality

Indicator	EU indicator past trend (*)	Selected objective to be met by 2020	Outlook for the EU meeting the selected objective by 2020
1. Exceedance of air quality standards in urban areas (nitrogen dioxide: NO_2; dust particles: PM_{10}; ozone: O_3; fine particulate matter: $PM_{2.5}$)	▲ NO_2, PM_{10}, $PM_{2.5}$ ▲ O_3	Meet Air Quality Directive standards for the protection of human health — Air Quality Directive (EU, 2008c)	●
There have been reductions in urban population exposure to exceedances of air quality standards for particles and nitrogen dioxide, while the trend for the ozone standard is unclear. Because of their widespread exceedance levels in urban areas, it is unlikely that the air quality standards for these pollutants will be met by 2020			
2. Emissions of the main air pollutants in Europe (sulphur oxides: SO_2; nitrogen oxides: NO_x; ammonia: NH_3; non-methane volatile organic compounds: NMVOCs; fine particulate matter: $PM_{2.5}$) (*)	▲ SO_2, NO_x, NMVOCs, $PM_{2.5}$ ▲ NH_3	Reduce air pollutant emissions in accordance with the requirements of the amended Gothenburg Protocol and of the new EU National Emission Ceilings Directive by the following percentages: SO_2 59 %, NO_x 42 %, NH_3 6 %, NMVOCs 28 %, $PM_{2.5}$ 22 % compared with 2005 levels (UNECE, 2012 and EU, 2016)	● SO_2, NO_x, NMVOCs, $PM_{2.5}$ ● NH_3
Air pollutant emissions have declined and current projections suggest that the EU is on target to meet its 2020 EU and international air pollutant emission reduction commitments. However, since ammonia emissions increased the past two years (2014 and 2015), it has become uncertain if the ammonia reduction commitment will be met by 2020			

Source: EEA (2017), Environmental Indicator Report 2017

Summary

State of implementation of the policy area

[129] SWD(2013) 56.
[130] COM(2016) 248.

☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The justification for this assessment ('some progress') is that we have seen downwards trends for most air pollutants in most Member States over the last 5 -10 years, which have translated into improved (but not necessarily 'significantly' improved') air quality in many areas across Europe. Nevertheless, there remains a substantial gap between the observed air quality and WHO recommended levels. Policy has made some progress in accelerating this, among other things by way of the clean air programme[131], revised national emission reduction targets set out in Directive EU/2016/2284 or Directive EU/2015/2193 on a medium combustion plan. Furthermore, the Commission has increased implementation support and tackled breaches of the clean air acquis. The Commission has done its part by delivering an updated air pollution policy in 2016 in line with the 7th EAP actions.

At the same time, however, a large compliance gap with existing air quality legislation remains. The Commission is currently carrying out a fitness check of the Ambient Air Quality Directive to establish what could have been done better in the context of air quality. The European Court of Auditors also published a policy performance audit of the air quality policy realm in 2018. Preliminary indications are that there is insufficient or delayed implementation of air quality measures by Member States. There are also negative side-effects of other national policy decisions (e.g. fiscal regimes that favour diesel fuel, insufficient recall rates of cars equipped with defeat devices prohibited by EU legislation, or lack of administrative fines imposed on car manufacturers as a result of the breach of EU law following cheated emissions tests).

3.2 Noise

Sub-objectives: • Noise pollution in the Union has significantly decreased, moving closer to WHO recommended levels;
Actions: • Implementing an updated Union noise policy aligned with the latest scientific knowledge, and measures to reduce noise at source, and including improvements in city design;

Introduction

As stated in the 7th EAP, according to the WHO, noise is the second largest environmental cause of premature death in the EU, after air pollution: at least 15,900 people die prematurely in Europe every year due to environmental noise. Prolonged exposure to excessive noise can lead to serious health effects, such as sleep disturbance, cardiovascular diseases, annoyance (a feeling of discomfort affecting general well-being), cognitive impairment and mental health problems. It can also cause direct effects such as tinnitus.

Directive 2002/49/EC *on the assessment and management of environmental noise* (the Environmental Noise Directive) aims to define a common approach to avoid, prevent or

[131] COM(2013) 18.

reduce on a prioritised basis the harmful effects due to exposure to environmental noise. The Directive applies to noise to which humans are exposed, particularly in built-up areas, in public parks or other quiet areas in an agglomeration, in quiet areas in open country, near schools, hospitals and other noise-sensitive buildings and areas. It does not apply to noise that is caused by the exposed person himself, noise from domestic activities, noise created by neighbours, noise at work noise from transport or due to military activities in military areas.

Environmental noise is not only regulated due to its negative impact on human health, but also because of its single market implications relating to competition for transport modes and industrial installations. The Environmental Noise Directive acts as a framework directive to determine 'noise at source legislation', which regulates vehicles, trains, airports and industrial installations.

Current situation

The Environmental Noise Directive has led to: (i) the achievement of common methods for noise management; (ii) the consistent preparation of noise maps throughout Europe; and (iii) the consistent adoption of action plans at national or local level, including raising the awareness of public authorities and citizens.

The evaluation of the Directive in 2016[132] showed it can help achieve the 7th EAP objective of reducing noise. It found that whenever the action plans are implemented, benefits were typically 29 times the level of costs. The Directive itself does not constitute a burden for the Member States, it is relevant as the noise problem is still sizeable and the Directive aims to oblige Member States to follow the same process, but leaves it up to them to choose which or any specific measures to take.

Road traffic noise, both inside and outside agglomerations, remains the most dominant source that affect human exposure above the reporting levels defined by the Directive, with an estimated total (inside and outside agglomerations) of around 100 million people (nearly 70 million inside and 30 million outside agglomerations) exposed to road traffic noise above 55 dB Lden (day evening night level). Railways are the second biggest noise source with a total of more than 18 million people (around 10 million inside and 8 million outside agglomerations) exposed to noise above 55 dB Lden, followed by aircraft noise with a total of nearly 4 million people (nearly 3 million inside and 1 million outside agglomerations) exposed to noise above 55 dB Lden. Industrial noise within urban areas exposes around 1 million people to noise levels above 55 dB Lden.

This exposure data implies that 14.1 million adults are severely affected by environmental noise: it causes sleep disturbance in 5.9 million adults, 69 000 hospital admissions and 15,900 cases of premature mortality each year.

As the WHO recommendations are stricter than the Directive thresholds, anyone falling under the scope of the Directive is non-compliant with the recommended WHO values. The analysis of the European Environment Agency[133] shows that there has been little or no improvement and that the 7th EAP objective will be difficult to achieve without further measures at both Member State and EU level.

[132] SWD(2016) 454

[133] .https://www.eea.europa.eu/themes/human/noise/sub-sections/noise-in-europe-updated-population-exposure

This stems, among other things, from the delays in implementing the action plans and the non-implementation of adopted action plans, which has led to no measures being taken. To foster implementation of the Directive a set of 16 legal procedures was introduced to oblige Member States to better implement the Directive. Thanks to infringements, many pending adoptions of action plans are moving forward, and three cases have already been closed without the need for court proceedings. Among those still open, the improvements in adopting the action plans are significant.

Summary

State of implementation of the policy area
☐ No progress
☒ Limited progress
☐ Some progress
☐ Substantial progress
☐ Fully implemented

In recent years, the Environmental Noise Directive has therefore highlighted the overall problem, raised awareness and initiated a process of adoption and revision of action plans so that the public authorities consider the issue and start tackling it. The 7th EAP target nevertheless remains far from being reached. Instead, actions remained scattered with a wide range of ambition between different action plans. Overall exposure to noise changed only slightly.

3.3 Drinking and bathing waters

Sub-objectives:

- Citizens throughout the Union benefit from high standards for **safe drinking and bathing water**;

Actions:

- Increasing efforts to implement the **Water Framework Directive**, the **Bathing Water Directive** (65) **and the Drinking Water Directive** (66), in particular for small drinking water supplies;

Introduction

The EU has a long history of water policy development – the overall objective being to ensure access to good quality water in sufficient quantities for all EU citizens. - Europe's bathing water quality has vastly improved thanks to the **Bathing Water Directive**[134]. Effective monitoring and management introduced under the Directive has led to a sharp reduction in untreated or partially treated municipal and industrial waste water ending up in water. As a result, more and more bathing water sites not only meet the minimum quality standards, but have also improved their quality. The **Drinking Water Directive**[135] has been instrumental in protecting consumer health from the possible negative impacts of

[134] Directive 2006/7/EC.
[135] Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.

contaminated drinking water. Recent reporting on the quality of drinking water in the EU confirms high compliance. In all Member States, compliance rates in large water supplies are above 99%.

Current situation

Drinking water

The Drinking Water Directive[136] deals with the quality of water intended for human consumption. Its objective is to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. The Directive lays down the essential quality standards at EU level. A total of 48 microbiological, chemical and indicator parameters must be monitored and tested regularly. In general, WHO guidelines on drinking water[137] and the opinion of the Commission's Scientific Advisory Committee[138] are used as the scientific basis for the quality standards in the drinking water.

The Commission identified a possible implementation issue with small drinking water supplies in 2010-2011. **Small water supplies** are those below 1 000 m^3 a day as an average or serving less than 5,000 people.

The Commission identified that there are around 85 000 small water supplies in the EU that provide drinking water to some 65 million Europeans. Voluntary data collection showed that more than one third of the small water supplies in the EU were not properly monitored or delivered drinking water that failed to comply with all quality standards. The assessment at that time that some Member States were struggling to manage small water supplies in a safe way, which could potentially affect between 11.5 and 15.5 million people, led to the inclusion of the issue in the 7th EAP.

As a result, the Commission took a number of actions. As an important legislative follow-up, the Commission proposed a revision of the monitoring Annexes II and III to allow Member States, on the basis of a risk assessment, flexibility in monitoring parameters and the frequency of sampling, to ensure better protection of citizens' health. The new monitoring and control system, adopted in 2015, means a reduction in unnecessary analyses and the ability to concentrate on the controls that matter.

The evaluation of the Directive performed in 2015-2016 found among other things that the risk-based approach offers opportunities to focus time and resources on risks that matter and to avoid analyses on non-occurring parameters, in particular in small water supplies with risks that are easy to survey. As a result, the Commission included a mandatory risk-based approach in its recast proposal published in early 2018. To respect proportionality, the Commission proposed that small water suppliers have more time to implement the risk-based approach, and to update on-line information. The proposal updates existing safety standards in line with the most recent WHO recommendations.

Bathing water

The Bathing Water Directive lays down provisions for the monitoring and classification of bathing water quality at designated bathing sites, the management of those sites, and the

[136] Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.
[137] https://www.who.int/topics/drinking_water/en/
[138] https://ec.europa.eu/health/scientific_committees/environmental_risks_en

provision of information to the public on bathing water quality. The Directive incorporates into EU law the approaches drawn up at global level by the WHO, including those related to monitoring and quality assessment activities.

Annual EU bathing water quality reports and **country reports** of the European Environment Agency and the Commission, based on the data provided by the Members States, provide an overview of the results of the monitoring and reporting obligations set out in the Bathing Water Directive. They serve as the source for the analysis of trends. According to the report on the quality of bathing water in 2017 (published in May 2018), **96 % of EU bathing sites met the minimum quality requirements and 85 % of bathing sites met the Bathing Water Directive's most stringent 'excellent' quality standards**. From 2014 to 2017, the quality of to bathing waters across the EU has been steadily improving. Specific results in the 2018 bathing water report based on the monitoring data reported by the Member States for the 2017 bathing season showed a small decline in EU sites meeting the highest 'excellent' quality standards and the minimum quality requirements set out in the Bathing Water Directive. '**Excellent' quality standards across Europe dropped marginally from 85.5 % in 2016 to 85 % last year**. Similarly, those meeting minimum 'sufficient' standing fell from 96.3 % to 96 %. The reason for the slight drop was due mostly to the effect of summer rain on test results as well as changes in testing methodology in Romania and Sweden.

Summary

State of implementation of the policy area – **drinking water:**	State of implementation of the policy area – **bathing water**
☐ No progress	☐ No progress
☐ Limited progress	☐ Limited progress
☐ Some progress	☒ Some progress
☒ Substantial progress	☐ Substantial progress
☐ Fully implemented	☐ Fully implemented

The EU action on drinking water has made *substantial progress*. The Drinking Water Directive has been well implemented[139] in general. Compliance rates in large water supplies are above 99%. in all Member States There has been significant progress by Member States in dealing with monitoring and compliance of small supplies, which was identified as a concern in the 7th EAP. Compliance rates in drinking water quality have increased in all Member States up to 98%.

The explicit designation of small drinking water supplies in the 7th EAP has triggered action at suppliers, Member States, and EU level. The objective envisaged by the 7th EAP is still relevant, as drinking water quality is and remains essential for the protection of human health. At the same time, it is an intrinsic link to the environment and related pressures. One important finding to improve water quality in small supplies was that the risk-based approach can further improve the situation.

[139] SWD (2016) 428

The EU action on bathing water has made *steady progress*. Over the years, the following has been observed when it comes to the Bathing Water Directive: better implementation of legislation; better information by improving the knowledge base; more and wiser investment in the environment and climate policy; and full integration of environmental requirements and considerations into other policies.

Investments needs in the water sector are high and those with direct impact on the quality of bathing waters are usually linked to waste water management. Mismanagement of waste water is one of the most common reasons for the 'poor' quality of bathing sites. Implementation of the Urban Waste Water Treatment Directive and a focus on reducing sewer overflow have successfully led to reduced pollution and improved quality at several low-quality bathing water sites. However, for some bathing water sites the upgrading of wastewater treatment, for example with ultraviolet light disinfection, may still be needed to ensure good bathing water quality. Bathing water affected by water draining from farms/ farmland, and from scattered houses with misconnected drains may need detailed inventories to find and stop the sources. In addition to measures to reduce pollution at source and rainwater storage basins, bathing water affected by heavy rains and storm water overflows needs an effective modelling and warning system to advise bathers against entering the water after these short-term pollution incidents.

To conclude, the Bathing Water Directive is perceived as a success story across the EU as years of investments in waste water management resulted in 96 % of bathing sites meeting the minimum requirements set by the Directive. While the annual report attracts a lot of media attention, the Commission is nevertheless aware of the challenges that remain.

3.4 Chemicals

Sub-objectives:

- The combination effects of chemicals and safety concerns related to endocrine disruptors are effectively addressed in all relevant Union legislation, and risks for the environment and health, in particular in relation to children, associated with the use of hazardous substances, including chemicals in products, are assessed and minimised. Long-term actions with a view to reaching the objective of a non-toxic environment will be identified;
- The use of plant protection products does not have any harmful effects on human health or unacceptable influence on the environment, and such products are used sustainably;
- Safety concerns related to nanomaterials and materials with similar properties are effectively addressed as part of a coherent approach in legislation;

Actions:

- Continuing to implement REACH in order to ensure a high level of protection for human health and the environment as well as the free circulation of chemicals within the internal market while enhancing competitiveness and innovation, while being mindful of the specific needs of SMEs. Developing by 2018 a Union strategy for a non-toxic environment that is conducive to innovation and the development of sustainable substitutes including non-chemical solutions, building on horizontal measures to be undertaken by 2015 to ensure: (1) the safety of manufactured nanomaterials and materials with similar properties; (2) the minimisation of exposure to endocrine disruptors; (3) appropriate regulatory approaches to address combination effects of chemicals and (4) the minimisation of exposure to chemicals in products, including, inter alia, imported products, with a view to promoting non-toxic material cycles and reducing indoor exposure to harmful substances;
- Monitoring the implementation of Union legislation on the sustainable use of biocidal products and plant protection products and reviewing it, as necessary, to keep it up to date with the latest

scientific knowledge;

Introduction

The 7th EAP recognised that the chemicals policy area (including legislation and other measures) requires further development to sufficiently protect human health and the environment. Priority areas and policy gaps of particular importance highlighted in the 7th EAP include: (i) combination effects ('unintentional mixtures'); (ii) endocrine disruptors; (iii) nano-materials; (iv) minimising exposure to hazardous substances; (v) chemicals in products (articles) and non-toxic material cycles; and (vi) improving the knowledge base on e.g. exposure as well as activities related to international objectives and conventions on chemicals.

Most of the activities in the chemicals policy area relate to priority objective 3 ('safeguard citizens from environmental pressures'). However, some of the objectives listed below are linked to other priority objectives and actions - such as priority objective 5 on developing better knowledge on nanomaterials and priority objective 9 on sound management of chemicals under relevant international conventions.

Current situation

Continued implementation of REACH

Registrations**:** The final round of registrations of old chemicals (i.e. phase-in chemicals) on the EU market under the EU Regulation on registration, evaluation and restriction of chemicals (REACH)came to an end in May 2018[140]. 21 787 chemicals in total placed on the EU and European Economic Area market in quantities over 1 tonne (per producer/importer and per year) have been registered (figure updated to October 31, 2018). This represents an unprecedented amount of information on chemicals, chemical and toxicological properties, uses and exposures, which can be used as the basis for safe use, restriction and authorisation of these chemicals.

Evaluation: So far, the European Chemical Agency (ECHA) has carried out over 1000 compliance checks on the registration dossiers. However, this process has encountered issues with the compliance of the information submitted by industry during the registration process (recently highlighted in a study by the German Institute for Risk Assessment (BfR)[141]. Such incompliance hampers the ability of risk managers to take well-informed risk management decisions and measures under the legislation.

Since 1 January 2014, another 46 substances have been identified as substances of very high concern (SVHC)[142] and listed on the REACH Candidate List[143] (in addition to the 151 substances identified between 2008 and 2013). By February 2019 the list contained a total of 197 substances. Under the SVHC roadmap, 600 substances have been screened; for 159 of them options for suitable risk management have been proposed. A further 500 substances are

[140] https://echa.europa.eu/-/21-551-chemicals-on-eu-market-now-registered

[141]REACH Compliance Workshop at the BfR, BfR Communication No 030/2018, 25 September 2018: https://www.bfr.bund.de/cm/349/reach-compliance-workshop-at-the-bfr.pdf

[142] Substances with the properties as laid down in Article 57 of REACH: Carcinogens, mutagens, reprotoxicants (CMRs, categories 1A/1B), sensitizers, persistent, bioaccumulative and toxic substances (PBTs) or very persistent, very bioaccumulative substances(vPvBs), endocrine disruptors (EDs), and petroleum/coal stream substances that are CMRs or PBTs.

[143] https://echa.europa.eu/home

being assessed or further data generated. The future focus will be to identify new SVHCs by looking at groups of similar substances together[144].

The processes of risk management under REACH via restriction and authorisation of hazardous substances have started. By the end of 2018, around 65 authorisations had been granted, and 69 restrictions on the use of substances or groups of substances has been adopted under REACH. However, progress has been slower than expected. Efforts to address this are being made, as set out in the 2018 REACH review.

Several measures to facilitate compliance, improve the quality of registration information, speed up risk management decisions and reduce the administrative burden are ongoing. Further actions have been identified in the 2018 REACH review and are currently being launched.

Development of an EU strategy for a non-toxic environment: The Strategy for a non-toxic environment has not been delivered by 2018 because a number of evaluations of current EU legislation needed to be finalised first. In particular, the Commission has carried out four important initiatives that have been completed or are in the process of being completed:

- the 2018 Communication on options to address the interface between chemical, product and waste legislation[145] [146]
- the 2018 REACH Review[147] [148]
- the Fitness Check of all chemicals legislation except REACH[149]
- the Fitness Check of the EU legislation on plant protection products and pesticides residues[150].

Some of the activities mentioned above are still ongoing and are expected to be finalised during the first half of 2019. Together with a comprehensive study on the issues raised in the action programme[151], these initiatives will provide a comprehensive assessment of the situation in the chemicals policy about what works well and does not work well. The Commission has made progress with respect to a number of issues: nanomaterials, endocrine disruptors, combination effects, chemicals in products and non-toxic material cycles.

Nano-materials: A limited number of pieces of EU legislation on chemicals (biocides, cosmetics and food) include specific provisions on nanomaterials that are already operational e.g. regarding risk management decisions. Amendments to the REACH annexes regarding registration of substances in or with nano-forms were adopted on 3 December 2018[152] and will enter into force in 2020. Guidelines for risk assessment of nanomaterials under REACH have been updated by ECHA[153]; further guidance on nano-form is under development in

[144] COM(2018) 116.
[145] COM(2018) 32.
[146] SWD(2018) 20.
[147] COM(2018) 116.
[148] SWD(2018) 58.
[149] http://ec.europa.eu/environment/chemicals/better_regulation/pdf/roadmap_chemicals_fc.pdf
[150] https://ec.europa.eu/food/plant/pesticides/refit_en
[151] European Commission (2017). Study for the strategy for a non-toxic environment of the 7th Environment Action Programme: http://ec.europa.eu/environment/chemicals/non-toxic/index_en.htm
[152] Commission Regulation (EU) 2018/1881.
[153] https://echa.europa.eu/guidance-documents/guidance-on-information-requirements-and-chemical-safety-assessment

2019 to reflect the latest amendments to REACH. EFSA has in 2018 updated its guidance on nanotechnologies on food and feed[154]. The EU is also active in the development of test guidelines under OECD and different aspects of nanomaterials safety are reflected in comprehensive EU funded research programs such as NanoReg[155]. An impact assessment[156] concluded that a Union-wide database for nanomaterials – as advocated for in the 7th EAP – was not needed because there are already existing regulatory measures and national initiatives in place for registering nanomaterials. The Commission has therefore delegated the compilation and dissemination of nanomaterial related information and the EU Observatory for Nanomaterials[157] to ECHA. The Commission's recommendation on the definition of nanomaterials[158] is currently under review, and will include an open public consultation.

Endocrine Disruptors (EDs): Criteria for the identification of EDs under the Biocidal Product Regulation and Plant Protection Product Regulation was adopted[159] in 2017 and 2018 respectively. In addition, a guidance document for their implementation was developed in 2018[160]. Beyond that, the Commission has progressed in identifying the gaps in current test guidelines, in prioritising on what to focus on in the further development of test guidelines and in initiating work on new tests and test guidelines [161] [162] [163]. Several EDs have been identified under REACH, on a case-by-case basis, by applying article 57(f) (substances of equivalent level of concern). The Endocrine Active Substances Information System (EASIS)[164] has been established and made publicly available as of 2016. The Commission adopted a Communication[165] *Towards a comprehensive European Union framework on endocrine disruptors* on 7 November 2018, setting out amongst other actions a comprehensive screening of the existing relevant legislation on endocrine disruptors. This reflection exercise will allow an assessment of whether EU legislation on endocrine disruptors delivers on its overall objectives to protect human health and the environment. It will ensure citizens' involvement and stakeholders' participation, including through a public consultation, and will support the Commission in bringing the debate forward and deciding whether changes to the legislative framework are necessary

Combination effects ('unintentional mixtures'): In line with the commitments made in the Commission communication on the combination effects of chemicals adopted in 2012[166] as a response to the Council conclusions, the Commission services and EU agencies have, until now, mainly focused on addressing gaps in methodologies and data. EFSA is currently developing the methodology for the cumulative risk assessment of the dietary exposure to

[154] https://www.efsa.europa.eu/en/efsajournal/pub/5327
[155] http://www.nanoreg.eu/
[156] http://ec.europa.eu/DocsRoom/documents/23261
[157] European Union Observatory for Nanomaterials (EUON): https://euon.echa.europa.eu/
[158] Information on progress of the review and the links to the supporting JRC reports: http://ec.europa.eu/environment/chemicals/nanotech/faq/definition_en.htm
[159] https://ec.europa.eu/health/endocrine_disruptors/process_en
[160] http://www.efsa.europa.eu/en/efsajournal/pub/5311
[161] https://publications.europa.eu/en/publication-detail/-/publication/58430e34-f4ef-11e7-be11-01aa75ed71a1/language-en
[162] https://publications.europa.eu/en/publication-detail/-/publication/472d2c88-a8b1-11e7-837e-01aa75ed71a1/language-en
[163] https://publications.europa.eu/en/publication-detail/-/publication/0abd23e0-ec38-11e6-ad7c-01aa75ed71a1/language-en
[164] https://easis.jrc.ec.europa.eu/veil/
[165] COM(2018) 734 final.
[166] COM(2012) 252 final.

pesticide residues. When completed, it should enable the existing provisions on the cumulative effects of pesticide residues to be applied under the Maximum Residue Level Regulation[167]. Furthermore, the Commission teamed up with EU agencies to develop the Information Platform for Chemical Monitoring (IPCHEM)[168] and is continuously populating it with new data on the presence of chemicals in the environment, humans, food, feed and indoor air and environment. This improves our understanding of the chemical mixtures to which human populations and the natural environment are exposed. The Commission services have also carried out a number of reviews[169] [170] [171] on existing methodologies and knowledge, and has funded research through Horizon 2020[172].

Chemicals in products (articles) and non-toxic material cycles: In October 2018 the Commission adopted a restriction of the use of 32 CMR substances in textiles by way of Article 68(2) of the REACH Regulation[173]. The legal package that amends the Waste Framework Directive, adopted on 30 May 2018 and published on 14 June 2018, includes a new provision according to which by 5 January 2021 economic operators shall provide ECHA with data on the content of SVHCs in articles. Thanks to a database, this information will be made available to waste treatment operators and consumers upon request. Similar information is already required under Article 33 of the REACH Regulation, but has so far not been easily accessible.

In early 2018, the Commission presented a Communication[174] and a Staff Working Document[175] assessing the interface between chemicals, products and waste legislations, identifying four main challenges in this area and presenting options to address them. The Commission launched an open public consultation on the way forward and the results[176] confirm general agreement among stakeholders on the relevance of the issues identified. They show support for improving substance traceability; better enforcement and use of other measures to ensure a level playing field between EU and non-EU operators; improved harmonisation and mutual recognition of end-of-waste criteria; and support for reinforcing circular economy aspects in instruments such as the Ecodesign directive.

In addition, several studies to inform the policy process on substances in articles were launched: (i) a study on substances of concern in material streams, launched in April 2018, which aims at further improving the knowledge base; (ii) a sub-study conducted in the context of the non-toxic environment strategy on ‘chemicals in articles and non-toxic material

[167] Regulation (EC) No 396/2005 on maximum residue levels of pesticides in food and feed
[168] https://ipchem.jrc.ec.europa.eu
[169] JRC Report: Assessment of Mixtures – Review of Regulatory Requirements and Guidance, June 2016.
[170] JRC Report: Scientific methodologies for the assessment of combined effects of chemicals – a survey and literature review.
[171] JRC Report: Review of case studies on the human and environmental risk assessment of chemical mixtures, 2016: https://ec.europa.eu/jrc/en/publication/review-case-studies-human-and-environmental-risk-assessment-chemical-mixtures
[172] Bopp et al. (2018). Current EU research activities on combined exposure to multiple chemicals, Environment International. Volume 120: p. 544-562.
[173] Commission Regulation (EU) 2018/1513.
[174] COM(2018) 32.
[175] SWD(2018) 20.
[176] Summary Report of the Public Consultation conducted by the European Commission based on the main issues identified in the Commission's Communication on the interface between chemical, product and waste legislation (COM(2018) 32 final) https://ec.europa.eu/info/sites/info/files/summary-report-public-consultation-chemical-product-waste-legilsation.pdf

cycles'[177]; and a study on scientific and technical support for collecting information on hazardous substances in articles and an assessment of currently available tools for this purpose[178].

Minimisation of human and environmental exposure to hazardous substances: The continuous implementation of the EU chemicals acquis over time has been quite effective in reducing and minimising human and environmental exposures, especially of some substances of very high concern. However, hazardous chemicals continue to be released in large quantities. They are ubiquitous in humans and the environment and accumulate in material stocks and products[179]. Trends data suggest projected doubling of the global chemicals market between 2017 and 2030, while the output of chemicals in the EU during the same period is projected to increase by 30% (from 0,541 trillion EUR to 0,706 trillion EUR). The growth in chemicals sales outnumbers the population growth, meaning per capita consumption of chemicals is increasing steadily[180].

A range of on-going and emerging health and environmental concerns remain and require further attention[181] [182] [183] [184]. Exposure to hazardous chemicals continues to be one of several factors behind human health as well as environmental impacts (cancers, reproductive diseases, respiratory sensitisation, decline of insect and bird populations, etc.), although current trends point to a mixed picture[185]. Accordingly, it continues to represent a serious cause for concern for human health and the environment.

The 7th EAP also explicitly mentions combination effects and endocrine disruptors in connection to minimisation of exposure and stresses the importance of considering children and sensitive population groups in the context. The minimisation of exposure is a horizontal long-term objective. Tackling it will largely rely on the combined efforts under all the different objectives and actions related to chemicals that are outlined in the 7th EAP.

[177] http://ec.europa.eu/environment/chemicals/non-toxic/pdf/Sub-study%20b%20articles%20non-toxic%20material%20cycles%20NTE%20final.pdf
[178] https://publications.europa.eu/en/publication-detail/-/publication/58f951af-809b-11e7-b5c6-01aa75ed71a1/language-en/format-PDF
[179] Global Chemicals Outlook II: summary for policymakers. UNEP/EA.4/21. 21 January 2019 https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/policy-and-governance/global-chemicals-outlook
[180] Global Chemicals OutlooK II. From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development – Synthesis Report. United Nations Environment Programme, 2019 https://wedocs.unep.org/bitstream/handle/20.500.11822/27651/GCOII_synth.pdf?sequence=1&isAllowed=y
[181] Towards a comprehensive European Union framework on endocrine disruptors. COM(2018) 734. http://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-734-F1-EN-MAIN-PART-1.PDF
[182] Study supporting the Fitness Check on the most relevant chemicals legislation ("Fitness Check +") Final report https://publications.europa.eu/en/publication-detail/-/publication/07ad8b92-dbca-11e7-a506-01aa75ed71a1/language-en/format-PDF
[183] Study on the cumulative health and environmental benefits of chemical legislation. Final Report, 2017. https://publications.europa.eu/en/publication-detail/-/publication/b43d720c-9db0-11e7-b92d-01aa75ed71a1/language-en
[184] European Union Strategic Approach to Pharmaceuticals in the Environment, COM(2019) 128 final http://ec.europa.eu/environment/water/water-dangersub/pdf/strategic_approach_pharmaceuticals_env.PDF
[185] Mixed trends, i.e. the exposures to some chemicals from some sources are going down while other exposures remains unchanged or increases.

Sustainable use of pesticides and biocides: A Commission report to the European Parliament and the Council on the sustainable use of biocides was published in 2016[186], and a Commission report on progress in the implementation of Directive 2009/128/EC on the sustainable use of pesticides was published in 2017[187].

Chemical exposure and toxicity knowledge base: An 'Information Platform for Chemical Monitoring' (IPChem) was established and made publically available in 2015. The 'Human biomonitoring for European Union' (HBM4EU)[188] was established in 2016 and funding is currently provided until 2020 under Horizon 2020. The 'Endocrine Active Substances Information System' (EASIS)[189] was established and made publically available as of 2016. Further funding of research related to chemicals, health and environment is provided under Horizon 2020[190] and the LIFE programme[191].

International chemicals policy processes and conventions: The EU and its Member States, committed to the UN objective of a sound management of chemicals throughout their life cycle in 2002, often referred to as the 'World Summit of Sustainable Development (WSSD) 2020 goal on chemicals and waste'. In 2006, governments and stakeholders agreed on the Strategic Approach to International Chemicals Management (SAICM)[192], a global policy framework to promote safe chemicals management with the explicit aim of implementing the WSSD 2020 Goal on chemicals and waste. In 2015, the EU committed to the United Nations' 2030 Agenda for Sustainable Development including the Sustainable Development Goals (SDGs)[193]. Several of the SDGs relate directly or indirectly to chemicals and chemical policy (in particular SDGs 3.9, 6.3, 12.4).

The EU plays an active role in the SAICM process, addressing a wide range of issues related to chemicals policy, including information on chemicals in articles. The EU is currently engaged in the SAICM post-2020 process, which seeks to formulate objectives for the period beyond 2020 to help implement the SDGs by 2030. The EU is also a major contributor to SAICIM financing as well as the international conventions on chemicals.

Under the Stockholm Convention on Persistent Organic Pollutants, the EU nominated two substances for consideration (in 2013, and in 2015). Under the Rotterdam Convention on Prior Informed Consent (PIC), the EU further submitted eight notifications of final regulatory action between 2013 and 2018, of which four in 2013. The EU also submitted more than 33,000 export notifications to third countries between 2013 and 2018. A report on implementation of Regulation (EU) No 649/2012 on export and import of hazardous chemicals[194], which implements the Rotterdam Convention in the Union, was published in 2018. An update of the Union Implementation Plan on the Stockholm Convention was

[186] COM(2016) 151.
[187] https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_sup_report-overview_en.pdf
[188] https://www.hbm4eu.eu/
[189] https://easis.jrc.ec.europa.eu/veil/
[190] https://ec.europa.eu/programmes/horizon2020/en
[191] European Commission Life Programme: https://ec.europa.eu/easme/en/life
[192] Strategic Approach to International Chemicals Management (SAICM): http://www.saicm.org/
[193] https://www.un.org/sustainabledevelopment/sustainable-development-goals/
[194] Summary of the Synthesis Report on the operation of Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals. COM(2018) 697 https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52018DC0697

published in 2019[195], while a report on the implementation of Regulation (EC) No 850/2004 on persistent organic pollutants, which implements the Stockholm Convention, is expected to be finalised in 2019.

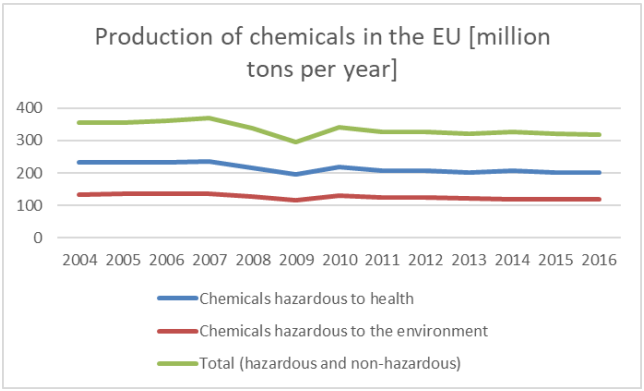
The EU was active in achieving the 2013 agreement on the 'Minamata Convention' on mercury, which the EU ratified in 2017. This will contribute to drastically reducing the use of mercury in the EU by adopting a new regulation on mercury, including setting deadlines for the prohibition of all known uses of mercury in industrial processes and introducing a prohibition on novel uses of mercury in products and industrial processes.

Summary

There has been some progress in the chemicals policy area, in particular in the continued implementation of REACH and through initiating actions to address the issues identified in the REACH review. Policy assessments have however also identified some remaining policy gaps, inconsistencies and development needs. Regarding the main issues highlighted in the 7th EAP, progress in terms of concrete policy measures has been made in particular on nanomaterials and endocrine disruptors. Activities on e.g. combination effects, have involved assessments, research and knowledge building while dealing with chemicals in products and minimisation of exposure to some hazardous chemicals have been tackled through implementation of a broad set of EU legislation on chemicals including notably REACH. The action to develop an EU non-toxic strategy for the environment has not been fulfilled.

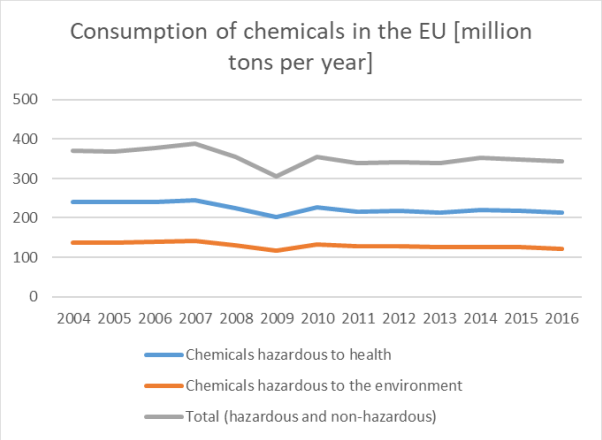
There are no quantitative targets for chemicals in the 7th EAP. One generally agreed indicator is based on the quantities of chemicals produced and used in the EU - by hazard class (see Figure 12[196]). The share of different classes of chemicals in EU production and consumption has remained relatively constant over time with around 63% hazardous to health and 43% hazardous to the environment. EU production and consumption are still recovering from the economic crisis in 2009. However, a slight relative decrease in the overall hazardousness of the chemicals consumed in the EU might be detected, although it is too early to determine if this is a lasting trend.

Figure 12: Chemical trends (tonnage produced and used in the EU over time)



[195] On the review and update of the second European Union Implementation Plan in accordance with Article 8 (4) of Regulation No 850/2004 on persistent organic pollutants. COM(2018) 848 http://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-848-F1-EN-MAIN-PART-1.PDF

[196] Note that the indicator aggregates data and some pertinent data may be lost eg not all classifications are of equal concern or severity



The above graphs shows production and consumption of chemicals, EU-28, 2004-2016, in total (hazardous and non-hazardous) and for chemicals hazardous to the environment and hazardous to health respectively. Source: Eurostat The share of chemicals hazardous to health and the environment was relatively unchanged over the period 2004–2016. The share of chemicals hazardous to the environment fluctuated between 37 % and 39%, while the share of chemicals hazardous to health fell from about 66 % in 2004 to 62 % in 2016. The analysis shows substitution of hazardous substances by less hazardous substances has not yet occurred to any notable extent. Essentially, the share of industrial chemicals hazardous to health and the environment in the total chemicals production has remained relatively unchanged over last decade.

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Overall, chemicals policy is not yet fully on track to achieve the 7th EAP 2050 vision or its Priority Objective 3 on *"safeguarding the EU's citizens from environment-related pressures and risks to health and wellbeing"*. Neither is it yet fully sufficient to achieve the SDGs relating to chemicals or the WSSD 2020 goal for chemicals. On the other hand, the EU chemical acquis is already composed by a great number of legislative instruments which are generally fit-for-purpose and can deliver. A number of challenges are currently being identified[197], which could undermine its capacity to deliver its full potential, including the need for Member States to commit adequate resources to its implementation.

[197] A number of evaluations have been carried out or are being finalised by the Commission on chemicals related legislation, including a review of REACH, an evaluation of the Pesticides Regulation and a Fitness Check of all chemicals legislation (except REACH).

3.5 Climate change adaptation

Sub-objectives: • Decisive progress is made in adapting to the impact of climate change.
Actions: • Agreeing and Implementing an **EU strategy on adaptation to climate change**,[198] including the integration and mainstreaming of **climate change adaptation and disaster risk management considerations** into key Union policy initiatives and sectors. • Agreeing and Implementing an **EU strategy on adaptation to climate change**, including the mainstreaming of climate change adaptation into key Union policy initiatives and sectors.

Introduction

Climate change is expected to aggravate environmental challenges by provoking prolonged droughts and heat waves, floods, storms, forest fires, soil and coastal erosion, as well as new and more virulent forms of human, animal or plant disease. Besides efforts to mitigate greenhouse gas emissions, specific action should be taken to ensure that the EU is sufficiently prepared to face the pressures and changes resulting from climate change, and to strengthen its environmental, economic and societal resilience.

To help safeguard Europeans from climate and environment-related pressures and risks to health and wellbeing, the EU developed the EU strategy on adaptation to climate change. The strategy aims to improve the preparedness and capacity to respond to the impacts of climate change at different levels of governance (local, regional, national and EU levels). The strategy seeks to:

- promote action by Member States;
- enable better informed decision-making; and
- climate-proof EU action by promoting adaptation in key vulnerable sectors.

Current situation

Promoting action by Member States

Encouraging all Member States to adopt comprehensive adaptation strategies

The Commission has supported Member States develop their adaptation strategies primarily by developing associated guidelines as well as by providing funding (LIFE programme). When the EU adaptation strategy was adopted in 2013, only 15 Member States had developed national strategies on how to adapt to climate change. As of October 2018, 25 Member States have developed such strategies, with continued efforts being undertaken in the remaining three to finalise theirs (Latvia, Croatia, and Bulgaria).

Provide LIFE funding to support capacity building and step up adaptation action in Europe

The EU also pursues its climate change adaptation objectives through the LIFE programme, the EU's funding instrument for environment and climate action. The programme helps implement the 7th EAP. The LIFE programme supports capacity building and adaptation action in Europe, co-financing projects that help develop and demonstrate the most effective technologies, tools and methodologies that can be used to meet EU's policy targets on climate change. The sub-programme for climate action was successfully incorporated into the

[198] COM(2013) 216.

2014-2020 LIFE Regulation[199] and into its multiannual work programmes for 2014-2017 and 2018-2020. Between 2000 and 2015, EUR 152 million (EUR 307 million with co-financing) of EU funding was allocated to nearly 150 projects that focus fully or partly on climate change adaptation[200]. As of October 2018, there are at least 65 ongoing adaptation-related LIFE projects on e.g. land and water management and urban adaptation that target implementation across a combined area the size of Germany (more than 350 000 km^2).

Introduce adaptation in the Covenant of Mayors framework
Successful adaptation to climate change requires action at all levels of governance: national, regional, local, as well as a transnational level. In 2014, the Commission launched the Mayors Adapt initiative to encourage local action on climate adaptation. After being integrated into the initiative supporting local action on climate change, 1 078 local authorities have declared their intention to develop climate adaptation strategies. As of October 2018, 22 city-level adaptation strategies had already been developed under the Covenant[201], with the number expected to increase as local authorities prepare their climate strategies for 2030.

In 2016, the Covenant of Mayors merged with the Compact of Mayors to form the Global Covenant of Mayors for Climate & Energy[202]. The initiative today brings together more than 9 000 cities committed to act on climate change, representing 10 % of the world's population.

The Urban Agenda for the EU further represents a bottom-up initiative in the form of a multi-level working method that promotes cooperation between Member States, cities, the Commission and other stakeholders in order to stimulate growth, liveability and innovation in European cities and to identify and successfully tackle social challenges. The 'Climate Adaptation Partnership' addressed climate adaptation by preparing an action plan on how to promote urban adaptation in the EU.

On promoting action by Member States, early results from the evaluation of the adaptation strategy suggest that steady progress has been made.

Better informed decision-making
Bridge the knowledge gap
Continued efforts have been made to identify and bridge knowledge gaps by funding research and projects related to climate adaptation via Horizon 2020 and the 7th Framework Programme. Under these initiatives, around 120 research projects, reports and articles have been identified that focus on climate adaptation. Furthermore, research has continually been undertaken by the JRC, including the development of preliminary projections on the economic impacts of climate change in sectors of the EU based on bottom-up analysis (PESETA III project), the results of which were published in 2017-2018.

Develop Climate-ADAPT as the 'one-stop shop' for adaptation information in Europe
Since its launch in 2012, the Climate-ADAPT platform[203] has continued to be developed by the European Environment Agency and the Commission as the 'one-stop shop' for adaptation

[199] Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013, L347/185.
[200] Ricardo, IEEP, Trinomics, and Alterra. Study to support the evaluation of the EU adaptation strategy, Ricardo/ED62885. Report, Study for the European Commission, 2018.
[201] https://www.covenantofmayors.eu/about/covenant-initiative/covenant-in-figures.html
[202] https://www.globalcovenantofmayors.org/

information in Europe. Between 1 March 2013 and 31 March 2018, Climate-ADAPT had 409 565 visitors, with 5 000 registered users receiving a newsletter. The European Climate Change Adaptation conference[204] is another event that helps disseminate information on climate adaptation.

Climate-proofing EU action: promoting adaptation in key vulnerable sectors

Facilitate the climate-proofing of the common agricultural policy, the cohesion policy and the common fisheries policy

Adaptation has been integrated into a broad range of sectors outlined in the EU adaptation strategy. Two recent studies on the integration of EU funds indicate that adaptation differs across EU funds. Among other things, adaptation seems to have been included in the CAP on a much larger scale than mitigation. Under the European Regional Development Fund (ERDF) and Cohesion Fund, a substantial amount of funding was directed at adaptation-related investments. Furthermore, the Commission only approved major projects if they were climate-resilient. Compared to the ERDF and Cohesion Fund, the focus on adaptation seems to be minor in the European Maritime and Fisheries Fund and European Social Fund. Climate change was integrated into the 2013 legislation establishing an EU civil protection mechanism and into the subsequent work carried out to implement it. Most recently, in the Commission communication 'Strengthening EU Disaster Management: rescEU Solidarity with Responsibility' and in the accompanying Decision[205], the emphasis was on strengthening Member States' prevention action, with due consideration for climate change impacts and adaptation measures. Moreover, many of the EU adaptation strategy actions are included in it action plan on the Sendai Framework for Disaster Risk Reduction 2015-2030[206].

Ensure more resilient infrastructure

In light of the increasing frequency of extreme weather events, efforts will be needed to ensure more resilient infrastructure and promote insurance and financial products. The Commission has published a guidance document on ensuring more resilient infrastructure[207].The Commission has continued to support work on resilient infrastructure by helping develop standardisations related to infrastructure and climate change and by investing in infrastructure through the European Fund for Strategic Investment. Extended until the end of 2020, this fund is the central pillar of the Investment Plan for Europe, with at least 40 % of infrastructure projects and innovation projects aiming to contribute to climate action in line with the Paris Agreement. Previously supported projects include renewable energy and retrofitting urban infrastructure[208].

Promote insurance and other financial products for resilient investment and business decisions

Insurance has attracted considerable attention as a tool in climate risk management to mitigate the impact of e.g. extreme weather events on sectors such as agriculture and infrastructure. Risk transfer through insurance can ensure that impacts of events such as

[203] https://climate-adapt.eea.europa.eu/
[204] https://www.ecca2019.eu/
[205] COM(2017) 772.
[206] SWD(2016) 205.
[207] SWD(2013) 137.
[208] Better infrastructure, better economy, European Investment Bank, 2016. Retrieved from: www.eib.org/attachments/thematic/better_infrastructure_en.pdf

extreme weather does not turn into long-term economic damage. Thanks to initiatives and reports such as 'Using insurance in adaptation to climate change'[209] and the CAP, the Commission helps adopt climate insurance as a viable risk mitigation method.

On promoting adaptation in key vulnerable sectors, continued progress appears to have been made towards the 7th EAP's priority objective and sub-objective. An evaluation of the EU adaptation strategy concluded in autumn 2018 that the strategy is fit for purpose and has delivered on its objectives. Progress has been recorded in each of its individual actions, while adaptation needs have increased and diversified since 2014[210].

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

The EU adaptation strategy has enabled substantial progress towards adapting to the impact of climate change. In particular, substantial progress has been made on strategic planning related to climate adaptation at national and subnational level. Almost all Member States now have national strategies on how to adapt to climate change, with continued efforts being undertaken in the remaining three to finalise theirs. A further 1,078 local authorities have declared their intention to develop climate adaptation strategies, and 22 city level adaptation strategies have already been developed under the Covenant.[211]

Continued efforts have been made to identify and bridge knowledge gaps by funding research and projects related to climate adaptation via Horizon 2020, the 7th Framework Programme and LIFE. Adaptation has been integrated into a broad range of sectors outlined in the EU adaptation strategy , including the common agricultural policy, the European Regional Development Fund and Cohesion Fund, and the EU Civil Protection Mechanism. Work on resilient infrastructure, standardisation and insurance have further helped 'climate-proof' key vulnerable sectors.

Having achieved substantial progress, a 2018 report published by the European Environment Agency identified that additional efforts might be needed on both a national and subnational level to ensure that adaptation actions and risks are developed, implemented and monitored.[212] The evaluation of the EU adaptation strategy echoed these findings[213].

[209] https://ec.europa.eu/clima/sites/clima/files/docs/insurance_adaptation_en.pdf
[210] COM(2018) 738.
[211] https://www.covenantofmayors.eu/about/covenant-initiative/covenant-in-figures.html
[212] 'National climate change vulnerability and risk assessments in Europe', European Environment Agency, (2018).
[213] COM(2018) 738.

4 PRIORITY OBJECTIVES 4: Better implementation of legislation

4.1 Compliance Assurance

Sub-objectives:

- The public has access to clear information showing how Union environment law is being implemented consistent with the **Aarhus Convention**;
- **Compliance with specific environment legislation has increased**;
- **Union environment law** is enforced at all administrative levels and a level-playing field in the internal market is guaranteed;

Actions:

- Ensuring that systems at national level actively disseminate information about how Union environment legislation is being implemented, and complementing such information with a Union level overview of individual Member States' performance;
- **Extending binding criteria for effective Member State inspections and surveillance to the wider body of Union environment law**, and further developing **inspection support capacity** at Union level, drawing on existing structures, backed up by support for networks of professionals such as IMPEL, and by the **reinforcement of peer reviews and best practice sharing**, with a view to increasing the efficiency and effectiveness of inspections;

Introduction

The EU has put in place rules to provide society with environmental benefits that include clean water, breathable air and healthy nature. An overwhelming majority of Europeans want the EU to make sure that these rules are applied across Europe.

Environmental compliance assurance describes all the ways in which public authorities promote, monitor and enforce compliance with such rules. It is part of environmental governance.

- promote means to help businesses and others comply;
- monitor means using inspections and other checks to collect information about levels of compliance and provide solid evidence for enforcement;
- enforce means to stop those who disregard the rules, sanction them and oblige them to rectify the damage.

Promotion covers awareness-raising, guidance and advice. Monitoring covers routine environmental inspections, police investigations and environmental audits by public audit bodies. It also includes investigating complaints from the public. Enforcement covers audit recommendations, official warnings, cease and desist orders, administrative fines, criminal prosecutions and demands to take remedial action. Interventions vary according to what works best in a particular region.

Current situation

Binding criteria on inspections and surveillance have not been extended to the wider body of EU environmental law as envisaged in the 7th EAP. However, in other respects, significant progress has been made in delivering this action.

First, in consultation with Member States and practitioners (mainly inspectors, police, prosecutors and judges), the concept of 'environmental compliance assurance' has emerged. While this includes inspections and surveillance, it goes beyond them by also including prevention (or promotion) and enforcement (using administrative and criminal law). This is a

more comprehensive way of tackling complex compliance problems. This reflects the latest thinking among practitioners that different classes of intervention are appropriate for dealing with different types of non-compliant conduct.

Second, the Commission's 2018 environmental compliance assurance initiative[214] aims to provide the practical support capacity referred to in the 7th EAP. The different dimensions of support capacity were explored with Member States and practitioners in 2017 in particular, and now extend to the following:

- reinforcement of IMPEL peer reviews, as mentioned in the 7th EAP;
- reinforcement of best practice sharing as mentioned in the 7th EAP, among other things by providing support for professional training and development of guidance/documentation on combatting environmental crime, compliance in rural areas and complaints -handling.

Work on this practical support capacity progressed in 2018, with workshops and exchanges taking place with practitioners. Guidance/documentation and other deliverables are due in 2019.

Third place, the Commission set up a new high-level expert group, the Environmental Compliance and Governance Forum, to help steer the environmental compliance assurance initiative. It held its inaugural meeting in March 2018. It brings together top-level Member State administrators in the field of environmental governance and the heads of several European practitioner networks, among them: IMPEL, which represents inspectorates, ENPE, which represents prosecutors, EnviCrimeNet, which represents police; and EUFJE, which represents judges. Thus, support for IMPEL has therefore been in line with the 7th EAP action.

Fourth, the above support to Member States has been strengthened by Commission efforts to assess and communicate how well Member States carry out compliance assurance. The country reports that form part of the Environmental Implementation Review are a means of providing an EU-level brief overview of individual Member States' work on this. One of the nine actions in the 2018 action plan involves preparing an assessment framework, which includes gathering and assesses evidence on compliance assurance practice in each Member State. The first draft country reports were put into consultation in September 2018 and are due to be published in 2019. Another action is the build-up of geospatial intelligence, allowing systemic and ad-hoc monitoring using among others the Copernicus data. Increased use of observation-based evidence seems of large benefit for compliance verification.

Nevertheless, there is evidence that compliance remains far from perfect:

- *Statistics from governance study*
- *Figures from ongoing study on cost of inaction*

Summary

State of implementation of the policy area

[214] http://ec.europa.eu/environment/legal/compliance_en.htm

☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

There has been widespread recognition that compliance assurance should improve and that this would be benefit the environment. Compliance assurance also benefits those responsible for the environment (by making compliance easier). The Commission and its Member States have been working together to share best practice and develop and better use capacity. These efforts are having an impact, but further effort is needed.

4.2 Supporting Member States in implementation

Sub-objectives:
Actions: • Drawing up **partnership implementation agreements on a voluntary basis** between Member States and the Commission, involving local and regional participation where appropriate;

Introduction

The 7th EAP makes reference to partnership implementation agreements, a concept that was not defined but was intended to improve implementation through means other than Commission infringement procedures. The Commission decided that the best way forward was the Environmental Implementation Review (EIR). This is a tool to address the causes of implementation gaps and try to find solutions before problems become urgent. The EIR is a two-year cycle of analysis, dialogue and collaboration, with country reports published and discussions held between the Commission, EU Member States and stakeholders. Country reports are drafted every 2 years and focus on key topics in the area of environmental policy and law in each EU Member State. They are published along with a summary that sets out common trends, recommendations and political conclusions.

Current situation

Key elements of the concept of partnership implementation agreements that are found in the EIR include: (i) a focus on improving implementation; (ii) efforts by the Commission to secure a shared understanding with Member States of what needs to be improved and the best means of doing so; and (iii) the establishment of voluntary mechanisms to help Member States that wish to make tangible progress. Voluntary mechanisms include Commission openness to bilateral dialogues with individual Member States and the creation of a TAIEX Peer2Peer tool[215] to fund study visits and exchanges of experts between Member States.

On references in the 7th EAP to the involvement of regional and local levels, the EIR country-specific reports take account of each Member State's administrative set-up. At the same time, the Commission has established close contacts with the Committee of the Regions, to help ensure that the EIR process takes full account of the opinions of regions and local authorities.

[215] http://ec.europa.eu/environment/eir/p2p/index_en.htm

The EIR aims to improve implementation of EU environmental policy and law. The Commission adopted the first EIR country reports[216] and communication[217] in 2017. The initiative received the support of the other EU institutions, Member States and key stakeholders. The second EIR package in 2019 will consist of 28 country reports (staff working documents) that reflects updated knowledge about the current situation in the Member States, taking into account successes and challenges identified in the previous reports, and a communication that presents political conclusions and offers guidance to the Member States in the form of priority actions.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The EIR process greatly helps Member States with implementation. The EIR provides a new opportunity for national authorities and the Commission to have a closer look at underlying root causes for poor implementation. The country reports show that there are root causes common to several Member States.

The EIR builds on the specific situation in each EU country. Based on this specific knowledge, the Commission is ready to help national authorities to fulfil their tasks to implement EU agreed policies and legislation. It supports multi-level collaboration, which is needed because most implementation takes place at regional and local level and each weak link in the decision-making chain can hold up implementation. The initiative also identifies common challenges to do with implementation and tackling root causes across Member States.

4.3 Complaints handling

Sub-objectives: • Citizens' trust and confidence in Union environment law and its enforcement is enhanced
Actions: • Ensuring consistent and effective mechanisms at national level for the handling of complaints about implementation of Union environment law;

Introduction

[216] http://ec.europa.eu/environment/eir/country-reports/index2_en.htm
[217] COM(2017) 63.

It is important to understand that the focus of this action is on complaint-handling mechanisms at *national level.* At EU level, the Commission has had its own complaint-handling mechanism for some time. However, the action is not related to this.

Complaint-handling mechanisms at national level are the responsibility of Member States and are not the subject of detailed provisions of EU environmental legislation (a few pieces of EU environmental legislation make reference to complaints as a source of information, but not in any detail).

The two actions in the environmental compliance assurance action plan (ECA action plan) need to be understood in this context.

Current situation

(1) The first action in the ECA action plan involves preparing documentation on complaints handling to help Member State authorities. Work on this got underway in 2018 following formal adoption of the ECA action plan. DG Environment engaged consultants to help prepare documentation. The process was as follows:

- close consultation of experts drawn from Member States and practitioner networks (inspectors, police, prosecutors and judges);
- three successive expert workshops to develop documentation (the first held in June 2018, the second in October 2018 and the third due in February 2019); and
- presentation of the documentation to a new high-level Commission expert group (the Environmental Compliance and Governance Forum) in conjunction with adoption of the action plan in January 2018 so that it is endorsed by the Forum in 2019.

(2) The second action in the ECA action plan involves preparing 28 country reports on environmental governance, with a section devoted to complaint-handling mechanisms. The methodology involves asking researchers to respond to a common set of questions in order to better understand how national complaint-handling mechanisms work in practice. The process is again guided by a number of workshops involving Member States, the first of which took place in early 2018 and the second in September 2018. This allows Member States and other stakeholders to comment on the draft findings before they are published in the first half of 2019.

Detailed Commission work on this action only started in 2018 following adoption of the action plan. However, decent progress has been made:

- Member States and national practitioners have provided a lot of useful material on good practice at the workshops held in June and October 2018 and substantial progress has been made on drafting the envisaged documentation;
- The assessment framework research is at the stage of draft country reports (October 2018); these show that while complaint-handling systems are generally in place, there are significant differences in the quality of online information available to prospective complainants.

Summary

State of implementation of the policy area
☐ No progress

☒ Limited progress
☐ Some progress
☐ Substantial progress
☐ Fully implemented

In January 2018, the Commission adopted a communication to endorse nine actions on environmental compliance assurance, including one action to prepare documentation to help Member States with environmental complaints handling[218]. A further action involves preparing an assessment framework for how Member States carry out environmental compliance assurance and ensure good environmental governance. The accompanying staff working document[219] explains these actions in more detail.

DG Environment has made arrangements to prepare the documentation on complaints handling before the end of the current Commission mandate in 2019. It has also made arrangements to look at complaint-handling practices in individual Member States as part of the assessment framework.

The Commission is making progress on delivering both the documentation and evidence base in 2019.

4.4 Access to justice

Sub-objectives: • The principle of **effective legal protection for citizens and their organisations** is facilitated.
Actions: • Ensuring that national provisions on **access to justice** reflect the case law of the Court of Justice of the European Union. **Promoting non-judicial dispute resolution** as a means of finding amicable and effective solutions for disputes in the environmental field.

Introduction

In 1998, the EU and its Member States signed the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters. It establishes that, in certain cases, well-defined natural and legal persons can bring a case to a court or to other impartial bodies in order to allow for the review of acts or omissions of the private or public sector.

In 2003, the Commission adopted a proposal for a Directive on access to justice in environmental matters. However, the proposal did not gather sufficient support from Member States. The Commission therefore withdrew the proposal in 2014.

Current situation

The Commission's focus has been on ensuring access to justice in line with the case-law of the Court of Justice of the European Union (CJEU). There has been limited progress on the

[218] COM(2018) 10.
[219] SWD(2018) 10.

second part of the action envisaged in the 7th EAP, i.e. non-judicial dispute resolution (which refers in particular to mediation).

Significant progress has been made on the first part. In April 2017, the Commission adopted a Notice on access to justice in environmental matters[220] (. This is the first ever Commission notice (i.e. interpretative communication) in relation to EU environmental law.

The Notice analyses 38 rulings of the CJEU that determine (i) how Member State courts should provide legal standing to individuals and NGOs to challenge decisions, acts and omissions of public authorities; (ii) how they should examine the substantive and procedural legality of contested decisions, acts and omissions; (iii) how they should provide effective remedies where a legal challenge is successful; (iv) and how they should ensure that the costs of litigation are not prohibitively expensive.

The Notice, which is published in all official languages, helps Member States and their judiciaries understand the content and significance of the case-law referred to in the action (as it existed in 2017). In this way, Member States and judiciaries are better able to assess and address any differences between their national provisions and the case-law. To further assist them and stakeholders (including individuals and NGOs), DG Environment published a Citizen's Guide on access to justice in environmental matters[221] in all official languages in September 2019. In addition, it has put in place arrangements to keep Member States informed of new case-law (by means of a table and periodic discussion in meetings of Member State experts).

As part of its work on environmental compliance assurance, DG Environment is setting up an assessment framework to look at how Member States, among other things, ensure good governance. Among other matters, the assessment framework looks at access to justice in the individual Member States. Work started in early 2018 and draft country reports had been prepared and were under consultation in September/October 2018. One of the sections focuses on access to justice in environmental matters. This section examines among other things:

- to what extent major barriers to access to justice still exist in individual Member States by referring to key parts of CJEU case-law referred to in the 7th EAP;
- how well Member States provide the public with practical information on access to justice in environmental matters; and
- how well Member States provide for judicial studies and training in the area of environmental law.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress

[220] OJC 275, 18 August 2017, p.1
[221] http://ec.europa.eu/environment/aarhus/pdf/guide/ENV-18-004_guide_EN_web.pdf

☐ Fully implemented

Initial indications in autumn 2018 were that significant barriers still exist in several Member States and that there is considerable scope for improvement in both practical information and judicial studies and training.

In conclusion, significant steps have been taken. However, the emerging evidence base indicates that more needs to be done at Member State level to deliver this 7th EAP action. This will be a challenge for the follow-up to the 7th EAP.

5 PRIORITY OBJECTIVE 5: Better information by improving the knowledge base

5.1 Environmental knowledge

Sub-objectives:

- Policy-makers and stakeholders have a **more informed basis for developing and implementing environment and climate policies**, including understanding the environmental impacts of human activities and measuring the costs and benefits of action and the costs of inaction;
- **The impact of the Union and its Member States in international science-policy fora** is enhanced in order to improve the knowledge base for international environment policy.

Actions:

- Coordinating, sharing and promoting research efforts at Union and Member State level with regard to addressing **key environmental knowledge gaps, including the risks of crossing environmental tipping-points and planetary boundaries**;
- Intensifying cooperation at international, Union and Member State level on the environment **science-policy interface**.

Introduction

EU environmental policies are built upon scientific findings, and their implementation requires continued monitoring and assessments. Policy evaluations and review, as well as the design of new policy initiatives, require constant updates on the state of the planet and on the links between the environment, human health and the society/economy. Emerging issues may also suddenly be added to the agenda of decision-makers, who need to be ready to react. The Treaty on the Functioning of the European Union also stipulates that, 'in preparing its policy on the environment, the Union shall take account of available scientific and technical data' (Article 191).

The general objective was to ensure that EU policy-makers benefit from credible and updated environmental knowledge when taking policy decisions. Key steps have been put in place to maintain and strengthen this knowledge and evidence base on environmental monitoring, data, indicators and assessments linked to the implementation of EU legislation, as well as formal scientific research and 'citizen science' initiatives.

Current situation

A number of actions have been put in place to respond to this challenge and improve **coordinating, sharing and promoting research efforts** at EU and Member State level to address key environmental knowledge gaps.

Horizon 2020 (H2020)- the EU programme for research and innovation provides the opportunity to focus research efforts and to deploy Europe's innovation potential in order to improve the state of the environment and knowledge about it. It also focuses on moving to a greener, more resource efficient and climate-resilient economy in sync with the natural environment. This demonstrates a strong commitment to supporting the UN's Sustainable Development Goals and the targets of the COP21 Paris Agreement.

For 2014-2018 (still ongoing), Horizon 2020 has provided EUR 1 868 million to fund projects under the Societal Challenge 'Climate action, environment, resource efficiency and raw materials'. The activities include (i) fighting and adapting to climate change, protecting the environment, sustainably managing natural resources such as water, biodiversity soil ecosystem services and nature-based solutions; (ii) ensuring the sustainable supply of non-energy and non-agricultural raw materials; (iii) enabling the transition towards a green economy and society through the circular economy, eco-innovation and sustainable cities; and (iv) developing comprehensive and sustained global environmental observation and information systems.

For the period 2014-2018 (not yet finished), H2020 has also provided EUR 1.57 billion to fund projects under the Societal Challenge "Food security, sustainable agriculture and forestry, marine, maritime and inland water research and bioeconomy. Research efforts have resulted for example in relevant scientific knowledge for the implementation of the Paris Agreement commitments and the next Intergovernmental Panel on Climate Change (IPCC) assessment cycle, and for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) assessments. Funded projects include ESMERALDA[222], which is delivering a flexible methodology to provide the building blocks for pan-European and regional assessments of ecosystem services. A number of Commission DGs are also working together on a knowledge innovation project on an Integrated System for Natural Capital and Ecosystem Services Accounting (KIP INCA), which has already triggered funds for the MAIA research project (EUR 3 million),.

There is also intensifying cooperation at international, EU and Member State level **on the environment science-policy interface**. Main outputs under this action have been:

- The regular dissemination of **'science for environment policy'**, a free news and information service published by DG Environment and designed to help policymakers keep up-to-date with the latest environmental research findings needed to design, implement and regulate effective policies.
- Horizon 2020, support to the UN's **IPCC** has been stepped up (around EUR 6 million in total), allowing the EU to become one of the main contributors. In addition, new scientific results from EU-funded projects on climate change will provide critical input to the IPCC's 6th Assessment Report.
- Since 2017, the EU is an enhanced observer to the **IPBES,** and DG Environment and DG Research and Innovation (DG RTD) co-lead as representatives of the Commission. EU researchers, also by way of projects

[222] www.esmeralda-project.eu/

supported by Horizon 2020 and former EU research framework programmes, have been actively involved in all IPBES assessments. DG RTD provides financial support to the IPBES Secretariat.

- DG RTD has engaged with the UN Environment Programme**'s Science Division** as part of the Memorandum of Understanding (MoU) between both institutions on improving the science-policy interface (Chapter 6 of the Annex of the MoU) to increase synergies in this area. On the occasion of the Third Session of the UN Environment Assembly , DG RTD also organised a workshop at the UN Science-Policy-Business forum on 'nature-based solutions for greener cities'. Speakers from Horizon 2020 projects shared best practices, case studies, and guidance on implementing nature-based solutions in key European cities.
- The Horizon 2020 EKLIPSE project[223] aims to establish a European knowledge and learning mechanism to improve the policy-science-society interface on biodiversity and ecosystems services.
- Horizon 2020 also promotes international cooperation at global level through active participation in international forums in the area of environment and climate. Examples include the **Group on Earth Observations,** which represents almost 200 countries and organisations and the **Belmont Forum**, which groups more than 20 funding agencies around the world to promote global change and solution-oriented research. The objective is to address global challenges by providing co-designing solutions to be adapted to local contexts and by advocating open access, also to Earth observation data, in order to underpin environmental and climate-related policies. Copernicus allows for a leapfrog advancement on a global scale by providing open access to its satellite data.

In terms of improving **EU governance on environmental knowledge and the capacity to use-generate-share knowledge** and information on the environment for EU policies. Main outputs:

- The Projects for Policy (P4P) initiative is inspiring policy recommendations and reaching out to partners and stakeholders and contribute to a policy making process with a high impact. The P4P report on forest fires was published in November 2018. Other planned P4P reports focus for example on biodiversity and on nature-based solutions. More technical reports that deliver policy recommendations are also being prepared or are nearing completion (e.g. on plastics, water management, cities, nutrients). Two of these – A Circular Economy for Plastics and Accelerating the transition to the circular economy –were published in March 2019.
- The **Environment Knowledge Community (EKC)** improves the way environmental knowledge is generated and shared for policy use. Besides regular coordination, EKC partners have launched specific projects on emerging environmental issues, planetary boundaries, integrated natural capital accounting and citizen science. Two EKC task forces (on environmental data centres and on the interoperability of platforms and catalogues of nature-based solutions) were also set up in 2017 and 2018 to

[223] http://www.eklipse-mechanism.eu/

improve the way environmental data and information are collected and shared for policy use.

- Since 2017, the Joint Research Centre (JRC) coordinates the Knowledge Centre for Bioeconomy (KCB)[224]. KCB aims at enhancing the knowledge base for policymaking on the bioeconomy, through identifying and filtering relevant information and making it accessible, bringing together researchers, policymakers and other experts in the field as by analysing, synthesising and communicating available evidence.

- The **European Environment Agency (EEA)** provides sound, independent information on the environment to those involved in developing, adopting, implementing and evaluating environmental policy and also to the general public. The EEA works together with the European Environment Information and Observation Network (**Eionet), a network of EEA's member and cooperating countries** involving some 1 000 experts and more than 350 national institutions. The network supports the collection and organisation of data and the development and dissemination of information on Europe's environment. The EEA regularly produces thematic assessments and a state of and outlook report on the European environment (in 2015 and 2019). An evaluation of the EEA is currently taking place.
- Eurostat provides **environmental statistics and accounts** as well as statistics in a large number of other areas linked to environmental policy making. This includes datasets, articles and dedicated websites as well as e.g. indicator sets to monitor the EU's progress towards the circular economy and the Sustainable Development Goals.

Overall H2020 is expected to spend 60 % of its budget on sustainable development and 35 % on climate action. With 26 730 million EUR spent from 2014 to March 2019, the target for sustainable development is exceeded (68 %). Spending for climate action reaches 11 230 million EUR, which amounts to 29 % of the total expenditure. In addition, 1 760 million EUR have been spent on biodiversity-related projects (4.5 % of the total expenditure). From 2014 to 2018 in the H2020 Societal Challenge 'Climate action, environment, resource efficiency and raw materials' 360 projects have been funded. The resulting mobilised resources total around EUR 2 280 million, of which more than EUR 1 868 million as EU funding.

Work on filling knowledge gaps in recent years has progressed in specific areas of work. This includes (i) understanding the health impact of environmental stressors (e.g. chemicals, noise); (ii) the valuation and accounting of ecosystems and their services; (iii) the drivers and impact of climate change; (iv) challenges and opportunities related to the circular economy and the transition to sustainability; and (v) emerging environmental issues, including from new technology developments.

Past work has also led to better use of IT platforms and improved interoperability in terms of knowledge, information and data on the environment. This includes the way they are

[224] https://ec.europa.eu/knowledge4policy/bioeconomy

disseminated to policy-makers, stakeholders and the public by means of EU environmental data centres and information systems.

Summary

State of implementation of the policy area (in between some and substantial)
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Overall, substantial progress has been made on environmental knowledge, and has led to many collaborations between Commission's DGs and with external experts and institutions. This work has also opened the way for new concepts to be integrated into Commission policies, e.g. on natural capital accounting, citizen science and planetary boundaries.

However, important knowledge gaps in environmental knowledge still remain. These were highlighted in an EKC symposium in 2017, where a number of key issues were identified, including:

- Numerous specific **knowledge gaps still exist for various environmental and climate policies**, which hamper the EU's capacity to formulate and implement technical, social and policy solutions. The largest gaps include our understanding of the role of natural capital in societal resilience, resource consumption drivers, low-carbon emission pathways, and climate change adaptation (global transboundary effects, long-term lack of water resources, health, biodiversity). **Basic scientific research is crucial** to better understand the numerous complex relationships between climate, nature, resource use, economic development and people's well-being.
- The anticipated transitions have to take into account the EU's particular socio-economic and political position **in global systems of production and consumption**, and in research and innovation ecosystems . The EU can provide a strong and credible set of pathways towards the knowledge and solutions needed in light of global challenges. The EU's updated bioeconomy strategy and its action plan are committed to a full set of actions to better 'understand the ecological boundaries of the bioeconomy'. This includes improving knowledge of the bioeconomy, including biodiversity and ecosystems, and better integrating the benefits of biodiversity-rich ecosystems into primary production[225].
- The EU needs **both technological and social innovation and innovation diffusion**. For this, users, consumers and society need to be at the centre of testing innovations to see if their large scale application is socially acceptable and if there is a market. While 'disruptive' innovations will be crucial for reducing resource consumption, they need to be taken up at company or organisational level

[225] COM(2018)673/2 "A sustainable bioeconomy for Europe: Strengthening the connection between economy, society and environment"

- The development of **effective science-policy and science-society interfaces at all levels** of governance is important, setting the right incentives to steer research and innovation and anticipating how a future legal framework would best support the fast scaling-up of 'useful innovations'.

5.2 Emerging environmental risks

Sub-objectives:
• The understanding of, and the ability to evaluate and manage, emerging environmental and climate risks are greatly improved;
Actions:
• Adopting a systematic and integrated approach to **risk management**, particularly in relation to the evaluation and management of new and emerging policy areas and related risks as well as the adequacy and coherence of regulatory responses. This could help to stimulate further research on the **hazards of new products, processes and technologies;**

Introduction

History shows that the **time lag between early warnings from science and political action** often leads to irreversible damage to human health or the environment.[226] Dramatic case studies call for policy-makers to adopt tools to better connect science and policy in order to respond more rapidly to risks that can have harmful and even catastrophic consequences.

Meanwhile, there is an **increasing demand for new transparent and participatory forms of risk governance in policy-making**, that involve citizens and stakeholders – and not just scientists - in all phases of risk analysis and management. Greater participation would help generate more and better knowledge about risks and foster robust innovations at a lower cost to health and the environment, creating the basis for their public acceptance.

Since the adoption of the 7th EAP, Commission's DGs have worked together towards the final goal of ensuring, by 2020, that 'the understanding of, and the ability to evaluate and manage, emerging environmental and climate risks are greatly improved'. Work has focused, in particular, on developing an integrated and participatory system to identify emerging environmental issues and related risks and opportunities from new technology developments. However, a number of complementary actions have been undertaken to improve the understanding of risk assessment and management and the consequences for EU policy-making.

Current situation

The Commission and its partners have continued to work on three inter-related actions linked to the 7th EAP goals on emerging environmental risks.

Action 1 - Establishing an EU system to identify emerging environmental issues

The Commission's services that formed the EKCs – ENV, CLIMA, ESTAT, RTD, JRC and EEA - agreed in 2015 to develop a common foresight capacity "to anticipate emerging issues /…/ as well as to monitor and identify opportunities and complex risks and foresee their impact on environment and society"[227]. The EKC partners have established a foresight system for the systematic identification of emerging environmental issues (FORENV). Its overall

[226] European Environment Agency, Late lessons from early warnings, Volumes I and II: www.eea.europa.eu
[227] Objective 2, EKC Roadmap (2015).

aim is to identify, characterise and assess emerging issues that may represent risks or opportunities to Europe's environment. The ultimate aim is to enable policy makers and other stakeholders to prevent or effectively manage emerging risks, and to ensure that opportunities are identified and exploited.

The system was piloted in the field of 'new technologies in the urban environment' (July 2017-June 2018), where eight emerging issues were identified and characterised, and regular annual cycles from September 2018. Every year, 10 emerging environmental issues from new technology developments will be identified by the system and communicated to policy-makers and the public at large.

Action 2 – Understanding risk perception

The understanding of risks by the public often differs from the scientific assessment of risks. However, policy-makers have to seriously take public perception into account in order for their policies to be accepted. Public acceptance is also essential for societal take up of innovations and technologies. Specific work has been carried out not only to better understand public perception of environmental risks, but also to test tools that can be used to duly inform policy decisions. This work has also helped develop Action 1.

Action 3 – Improving the understanding of environmental and climate risks and how to manage them, including the precautionary principle

Most EU environment policies are risk-based. However, the understanding of what an environmental risk is, the way scientific knowledge is used for policy-making and the response to scientific uncertainty take very different forms from sector to sector. Work has been carried out in particular by DG ENV and the EEA to deepen the understanding of risk-based policies and the use of the precautionary principle. It also stimulates discussions on how to protect the environment and how to foster innovations.

Since its adoption in 2013, the **EU strategy on adaptation to climate change** has promoted the understanding of climate risks, and how to manage them. In particular, the strategy supports the funding of projects related to climate adaptation through LIFE, Horizon2020, the 7th Framework Programme, and modelling undertaken by the JRC (e.g. PESETA III project). To improve climate risk management, the Commission has directly supported the use of insurance and other financial products for resilient investment and business decisions, e.g. through initiatives and reports such as 'Using insurance in adaptation to climate change'.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Good progress has been made on building an integrated system to identify of emerging environmental issues, thanks to the participation of various Commission's DGs and external experts. The system can now be deployed and will inform policy-makers and stakeholders on

the main risks and opportunities related to emerging issues, for policy decisions and further research.

Further substantial progress is needed in the understanding of the environmental risks associated with technology developments. While, scientific literature on new technologies is dominated by publications on the application of the technology – including the potential benefits for society, health and the environment –very little research focuses on possible trade-offs and risks, especially in the area of environment (impact on biodiversity, ecosystems, environmental media). Initial estimations based on (the JRC text mining tool 'TIM' and the EEA's late lessons from early warning) indicate that only 1 % of scientific publications on new technologies normally address potential environmental and health risks. The FORENV system may help redress the balance once it is operational, especially by pinpointing the areas where further research should be promoted.

5.3 Streamline environment data and information

Sub-objectives:

- The environment science-policy interface is strengthened, including the accessibility of data for citizens and the contribution of citizens' science;

Actions:

- Simplifying, streamlining and modernising **environmental and climate change data and information collection**, management, sharing and re-use, including the development and implementation of a Shared Environmental Information System;
- Enhancing **Union public information provision, awareness and education on environment policy**. (ENV.A.2)

Introduction

Improving data managements and providing Europeans with broader access to environmental information, while cutting red tape are key priorities for all administrations at Member States and EU level.

Current situation

Improving the knowledge and evidence base for EU environmental policy has many dimensions and there is a multitude of activities implemented and ongoing in the field of environment and climate change policy. It is addressed in a continuous and iterative way – this means that there are many activities that do not necessarily result in Commission initiatives listed under 'outputs'. While this assessment tends to focus on outputs, other activities with tangible results for this priority objective are also mentioned, as appropriate.

As part of the action 'simplifying, streamlining and modernising environmental and climate change data and information collection, management, sharing and re-use, including the development and implementation of a Shared Environmental Information System' many individual activities have been carried out in recent years. The main headline activities are the two fitness checks on environmental reporting and on energy and climate reporting and their related legal proposals[228].

[228] COM(2016) 759; COM(2018) 381.

As a follow-up to the fitness check on environmental reporting, an action plan was put in place covering five areas:

1. getting the right information in the right form at the right time;
2. streamlining the reporting process;
3. promoting active dissemination of environmental information at European and national level;
4. exploiting other data sources and alternative approaches complementing environmental reporting; and
5. improving coherence and cooperation.

In addition, many specific environmental and climate policy areas have been engaged in improving their data and information management. Some of these specific actions are covered in the repeal of the Standardised Reporting Directive.

Research programmes such as Copernicus have proved critical in generating and disseminating knowledge on the environment, in Europe and beyond. The 3rd edition of the World Atlas of Desertification is a comprehensive tool for analysing land degradation as a global problem of human dominance involving complex interactions between social, economic and environmental systems.

Improving the knowledge and evidence base for EU environmental policy is a continuous challenge and remains highly relevant. In particular, modernising the information technology used (e.g. through the EEA's Reportnet 3.0 project) or improving transparency at national level by developing and promoting good practices for national information systems and ensuring that environmental spatial data are available in conformity with the INSPIRE Directive[229] will require further attention. The 7th EAP helped to highlight the importance of improving information on implementation and policy development in the various environmental and climate domains.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

Improving the knowledge and evidence base for EU environmental policy has been at the heart of many activities and outputs across the various policy domains. In particular, the streamlining of reporting in the field of environment, climate and energy policy has resulted in several legislative changes, which aim to:

[229] https://inspire.ec.europa.eu/about-inspire/563

- increase transparency of environmental data and information for citizens which also increases accountability of national administrations;
- improve the evidence base for future evaluations and impact assessments; and
- reduce administrative burden and simplification for administrations (at EU and national level) as well as for business and other data providers.

Moreover, the use of modern information technologies is increasingly common and helps environmental information be used in a more effective and efficient way. It also helps tap into newer, complementary data sources such as satellite data (e.g. generated by Copernicus) or data collected by citizens.

6 PRIORITY OBJECTIVE 6: More and wiser investment for environment and climate policy

6.1 Adequate finance to support environment and climate objectives

Sub-objectives:

- Environment and climate policy objectives are achieved in a cost-effective way and are supported by **adequate finance**;
- **Public and private sector funding** for environment and climate-related expenditure is increased;

Actions:

- Phasing out environmentally harmful subsidies at Union and Member State level without delay, and reporting on progress through the National Reform Programmes; increasing the use of market-based instruments, such as Member States' taxation policies, pricing and charging, and expanding markets for environmental goods and services, with due regard to any adverse social impacts, using an action-based approach, supported and monitored by the Commission, inter alia, via the European Semester;
- Facilitating the development of, and access to, innovative **financial instruments and funding for eco-innovation**;
- Adequately reflecting environment and climate priorities in policies and funding strategies to support economic, social and territorial cohesion;
- Making dedicated efforts to ensure the full and efficient use of available Union funding for environmental action, including by significantly improving its early uptake under the Union's **Multiannual Financial Framework 2014-2020** and devoting 20% of the budget to climate change mitigation and adaptation through the mainstreaming of climate action and linking that funding to clear benchmarks, target setting, monitoring and reporting; (ENV.F.1 + ENV.F.2 and CLIMA.A.2 and CLIMA.C.3)
- Developing and applying **a system for reporting and tracking** environment-related expenditure in the Union budget, in particular expenditure on climate change and biodiversity, by 2014; (ENV.D.2)
- Further developing and encouraging **'payments for ecosystem services' schemes**; (ENV.D.2)

- Putting in place incentives and methodologies that stimulate companies to measure the environmental costs of their business and profits derived from using environmental services and to disclose environmental information as part of their annual reporting. Encouraging companies to exercise due diligence, including throughout their supply chain. (ENV.E.1) + (ENV.F.1)

Introduction

In the current multiannual financial framework (MFF), environmental protection considerations are embedded (integrated) across all key EU funds. The most significant of these are the regional development funds, agriculture and rural development funds, maritime and fisheries funds, research & innovation as well as external policy instruments. There is also a specific programme for environment (LIFE) which provides funds for certain activities that are not addressed through the other EU programmes. These environmental considerations take the shape of requirements to prevent or reduce negative impacts on the environment of investments carried out for other purposes as well as investments specifically aimed at improving the state of the environment. Increasingly, efforts are also being made for policy initiatives to proactively seek co-benefits for the environment, the economy and society (for example by improving human health).

Effectively integrating the environment into other policy areas plays an important role in ensuring that EU funds contribute effectively to EU climate and environment objectives and are not damaging the environment. It is crucial to integrate environmental concerns at the initial strategic level when investing in infrastructure since these policy choices can have long-term environmental effects, and wrong choices can take years if not decades to put right. At the same time, investments aligned with climate and environment objectives can achieve other policy objectives, such as more sustainable growth and jobs.

In the environment field, only climate related expenditure is the subject of an overall percentage target in the current Multiannual Financial Framework (MFF). However, there are quantitative environment-related objectives as part of specific funds: the CAP (30 % greening and 30 % of rural development, which includes also climate measures) and Horizon 2020 (at least 60 % is expected to be related to sustainable development, while 35 % is expected to address climate action including activities linked to other environmental aspects, e.g. soil, forest, wetland restoration, water retention). The Commission's objective is to ensure that sufficient funding is available to integrate environmental protection requirements into the implementation of the EU's common agricultural policy.

Current situation

An estimated EUR 212 billion (maximum, in current prices) or around 25 % of the total for these programmes is theoretically meant to be spent on environment during the 2014-2020. It is difficult to determine the actual expenditure, as the data are not always available or comparable. In addition, **the LIFE programme**, **with a total budget of EUR 3.45 billion for 2014-2020** allows funds to be combined and better aligned with policy priorities in a more strategic and cost-effective way to support of environment and climate related measures.

Climate mainstreaming

Current MFF: Climate mainstreaming under the current MFF has worked well in catalysing investments into energy and climate, and has established quantitative methodologies and procedures. The target of integrating climate considerations into 20 % of EU programmes under the current MFF has driven climate into the design and implementation of all EU

programmes. The current projection that climate issues will be mainstreamed into 19.3 % of EU programmes by the end of 2020 means the EU is more than 95 % of the way towards its target.

The Commission proposal for the 2019 Draft Budget shows that the funding earmarked for climate mainstreaming is expected to reach EUR 32.5 billion in 2019 (or 20,1 % of proposed total commitment appropriations) compared to EUR 31.0 billion in 2018 (or 19.8 % of total commitment appropriations).

Next MFF: Building on the success of the 20 % target, the next MFF proposed a target of 25 % of expenditure contributing to climate objectives. Programme-specific proposals include specific percentage levels of 'expected contribution' for major programmes. This means that around EUR 320 billion (in current prices) of commitment appropriations will contribute to climate objectives over the 2021-2027 period, representing an increase of EUR 114 billion compared to the current MFF.

This 25 % target is ambitious but realistic, taking into account the experience with climate-related expenditure in the current period and the expenditure structure proposed for the next MFF.

The individual programmes' contribution to achieving the overall target will be tracked through the EU climate 'marker' system at an appropriate level of disaggregation. More precise methodologies will also be used where available.

Other environmental spending

In the current MFF **most environmental spending is done through mainstreaming** into cohesion policy, agriculture and rural development funds, the maritime and fisheries fund, research & innovation as well as external policy instruments.

There is also a specific programme for environment (LIFE) which provides funds for certain activities that are not addressed through the other EU programmes. The LIFE multiannual work programme for 2018-2020 earmarks EUR 1,243 million for work on nature conservation and environmental protection, and a further EUR 413 million for climate action. The multiannual work programme for 2018-2020 will also increase LIFE's budget for nature conservation and biodiversity by 10%. In parallel, the total number of project topics in the sub-programme for Environment has come down from 87 to 42. Another marked change on previous years is the introduction of a two-stage application procedure for traditional projects under the Environment sub-programme to increase the efficiency of the processes.

Funding for the environment and climate under the **CAP** is provided through a range of different mechanisms, such as earmarking at least 30 % in the first pillar for the greening payment and 30% in the Second Pillar (Rural Development). The recent Commission proposals for the next CAP (2020-2027) aim at introducing a new delivery model, based on higher subsidiarity, while delivering a higher degree of ambition for the environment and climate. In more detail, the mechanisms that will provide the necessary funding to this goal are:

- In the first pillar, each Member State has to use a share of their national direct payments allocation to offer eco-schemes that support farmers in going beyond the mandatory requirements.
- Earmarking at least 30 % of funding in the second pillar for environment and climate measures, excluding funds for areas with natural constraints.

- A higher- EAFRD contribution for environment and climate-related management than the current maximum amount.
- The possibility for Member States to find synergies between the EAFRD and the LIFE Regulation by allocating a certain share of the former to integrated strategic nature projects funded by the latter.
- A number of eligibility and conditions to avoid environmentally harmful investments

Cohesion policy provides a key source of financing for environmental investments. The total allocations (direct and indirect environmental investments) from the European Regional Development Fund, the European Social Fund and the Cohesion Fund for the environment have increased steadily over time, growing from about EUR 41 billion in 2000-2006 to EUR 66 billion in 2007-2013 and EUR 82 billion, 2014-2020 (see **Error! Reference source not found.**2 below).

Cohesion policy had not set a specific quantitative objective for environmental investments. Direct environmental investments are stable over time and help fill the implementation gaps in particular in the new Member States where significant funding is needed to help them comply with EU environmental legislation. For instance, in the water sector, thousands of agglomerations across Europe do not have adequate collection and treatment standards and access to water is still problematic in many regions.

Environmental indirect investments supported by cohesion policy show how environmental concerns are increasingly integrated into the other policy areas.

- Allocations for **direct environmental investments** (waste, water, nature, rehabilitation of contaminated sites and air quality) have remained a bit above or below EUR 40 billion in each period, while those for **indirect environmental investments** (sustainable energy, transport, tourism and clean production processes) grew sharply. This reflects a 'greening' of cohesion policy investments for key sectors, in particular energy (energy efficiency and renewable energy), transport (shift to low emission mobility) and innovation.

- This trend reflects the evolution of the EU financial framework. For the 2014-2020 financing period, an explicit effort was made to align the objectives of cohesion policy funds to those of the Europe 2020 Strategy. The Europe 2020 Strategy sets targets to reduce greenhouse gas emissions, increase energy efficiency and increase the share of energy from renewables. Investments in sustainable energy and transport respond to these goals.

Regarding **Research and Innovation**, the Regulation establishing **Horizon 2020** provides for a 60 % target of the overall budget to be related to sustainable development, meaning that not only the Societal Challenge 5 (targeted to climate action, environment, resource efficiency and raw materials), but all part so the Work Programme should address environmental protection objectives. The interim evaluation of Horizon 2020 shows that spending to date only reaches 53.3% of the target, and more efforts will be needed in the last Work Programme (2018-2020) to reach the 60%. H2020 Work Programmes should in all sections clearly explain to which of the 17 SDGs the proposals are meant to contribute on the level of the calls themselves.

Table 2 – Environmental mainstreaming spending estimates[230]

	Total budget (2014-2020) €billion	***Projected environmental spending * (2014-2020)*** €billion
Cohesion (ERDF, CF, ESF)	351.8	82.7 (24 %) - reflection paper EU finances
CAP	362.8	*105 (~30 %) – theoretical* 60 - reflection paper EU finances *11 – ENV estimate*
Horizon2020	74.8	**Sustainable Development** – Target / achieved as of 2018 Target 60 % of the total Horizon 2020 budget (€45 billion), but current estimates reach 53 % **Climate mainstreaming** – target / achieved Target at least 3 5% of the total Horizon 2020 budget, but current estimates reach 30 % **Environmental** not counting transport and energy – No official target, but internal estimates reach €12 billion (15 %)[231] of which 9 % in the dedicated societal challenges**** and 6% distributed across all parts of Horizon 2020.
EMFF	6.4	3.5 (55 %)
International	55	2.3 (4 %)**
LIFE	3.4	3.4 (100 %)
Total	**854.2**	**118-212 (~25 %)**

** figures are approximate; ** excluding climate action, **** "Climate, Environment, resource efficiency & raw material" and "Food, sustainable agriculture, forestry, waters and marine".*

As regards greening the Common Agriculture Policy, the European Court of Auditors (ECA) has concluded that the greening payment, as currently implemented, is unlikely to significantly improve the CAP's environmental and climate performance[232]. The Commission, on the basis of the external evaluation on greening, has concluded that, despite the objectives of the greening measures set out in the Direct Payments Regulation, environmental and climate objectives have not been generally a major factor in the Member States' choices made in relation to implementing greening measures. The main concern of both Member States and farmers tends to have been minimising the administrative burden of implementation, as well as avoiding any errors with check and enforcement that may lead to at reduction in CAP payments. The overall effects of the greening measures, as currently applied, on farm management practices and the environment/climate are uncertain but appear to be fairly limited. However, there are variations across the Member States, depending on the greening measure, the areas concerned and the way in which they are managed.

[230] Source: based on internal COM/DG ENV calculations
[231] *Based on SDG mainstreaming target applied on Pillar 3 (societal challenges), i.e. 75/3=25 and 0.6*25=15.*
[232] http://www.arc2020.eu/wp-content/uploads/2018/03/SR_GREENING_EN.pdf

The assessment by ECA also showed that having the greening measures defined at EU level does provide EU added value, chiefly by setting a higher level of environmental ambition, a greater degree of uniformity and provide a stronger financial incentive than all Member States would if left to choose. There is however considerable scope for divergence in ambition due to the flexibilities in the ecological focus area (EFA)[233] measure and equivalence schemes.

In the EARDF, the criteria for measures to count under priority 4 are not based on environmental performance. This leads to diverging interpretations on amounts actually spent on the environment. Some measures supported by the EARDF have a direct positive impact on the environment (for example measures to support Natura2000 species and habitats), while other supported measures have only limited, added value for the environment .

A tracking procedure for biodiversity-related expenditure has been developed and integrated in the existing methodology used to measure the performance of EU programmes. The biodiversity tracking methodology is largely based on the 'Rio markers' established by the OECD, while taking into account the specificities of each policy area. The total contribution to mainstreaming biodiversity is expected to be EUR 12 810.1 million in 2018 (or 8.2 % of proposed total commitment appropriations) compared to EUR 12 484 million in 2017 (or 8.1 % of total commitment appropriations).

The **Natural Capital Financing Facility (NCFF)** was launched in 2015 and is now fully operational, following a slow start. The main aim of the NCFF is to demonstrate that natural capital projects can generate revenues or save costs, whilst delivering on biodiversity and climate adaptation objectives. Experience with the NCFF shows that there is growing interest in ecosystem-based natural capital investments. Although the take up has been slower than expected, the pipeline is now solid. The first beneficiaries will start investing into concrete projects in the coming months. More projects will be needed in view of replicating such approaches through the Sustainable Infrastructure window of InvestEU.

Sustainable finance

In terms of private sector funding for environment and climate-related expenditure, a major step forward was taken with the Action plan on sustainable finance[234] adopted on 8 March 2018, and the related package of legislative measures[235]. In particular, the proposal for a Regulation for the development of a classification system for environmentally sustainable economic activities (or 'Green Taxonomy')[236] is expected to trigger substantial private capital flows towards sustainable investments, especially once this is combined with an EU green bond standard and/or an ecolabel for green financial products. Although it is difficult to assess at this point the precise amount of finance involved, let alone the final impact on the environment, the large momentum and strong interest from a wide range of stakeholders is promising.

[233] The 2013 reform of the common agricultural policy (CAP) introduced a green direct payment scheme 1 (greening'). The aim was to further improve sustainable management of natural resources linked to farming through payments for practices beneficial to the environment and the climate. Besides crop diversification and the maintenance of permanent grassland, greening requires farmers to reserve 5 % of their arable land for ecological focus areas (EFAs). See e.g. COM(2017) 152

[234] COM(2018) 97.

[235] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en#implementing-the-action-plan-commission-legislative-proposals

[236] Proposal for a regulation - COM(2018)353/978670: https://ec.europa.eu/info/law/better-regulation/initiatives/com-2018-353_en

Another benefit of implementing this action plan is that it will stimulate companies to measure the environmental costs of their business and disclose environmental information as part of their annual reporting. While the green taxonomy would provide this stimulation to a certain extent (i.e. to companies which want to comply with this voluntary scheme), the Non-Financial Reporting Directive[237] is the main driving force since it requires large listed companies to disclose material information on key environmental, social and governance factors. In June 2017, the Commission issued guidelines[238], providing much needed guidance to companies for their first report under this Directive. The Action Plan foresees building on these first reports, so as to further improve the guidelines.

The stimulating effect will be further reinforced by another proposal from the 'Green Taxonomy' package, which concerns investor duties. Indeed, the proposed Regulation will introduce consistency and clarity on how institutional investors, such as asset managers, insurance companies, pension funds, or investment advisors should integrate environmental, social and governance factors in their investment decision-making process.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Overall, the Commission's experience of environmental mainstreaming in the current MFF has been mixed. For some funds, it is difficult to determine the environmental expenditure, as the data are not always available or comparable. Most of the EU financing for the environment is delivered by integrating environmental policy objectives into the main EU funds, in particular cohesion, the CAP, Horizon 2020, the European Maritime and Fisheries Fund and, for the international dimension, through the external funds. This *legal earmarking of funds* has been extremely useful in terms of giving political weight to the principle that EU funds should deliver for the environment and that the EU has allocated a significant financial envelope towards these objectives. In addition, funding is delivered through the LIFE programme, a dedicated instrument to finance nature and biodiversity.

The CAP has an essential role in delivering on a transition towards sustainability. The 2013 CAP reform led to progress, but, a number of evaluations have shown that better integration is needed to deliver on key environmental objectives.[239] The Commission's recent proposals aim at delivering higher ambition on the environment and climate within a subsidiarity-based delivery model. Under these proposals, Member States will be able to replace the greening payment with greater conditionality. The proposals also oblige Member States to offer eco-

[237] https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en#how-to-report
[238] https://ec.europa.eu/info/publications/170626-non-financial-reporting-guidelines_en
[239] See for example most recently the Nature Fitness Check and the mid-term review of the EU biodiversity strategy to 2020.

schemes (voluntary for farmers) aimed at achieving these tougher environmental objectives. Mainstreaming of climate and other environmental considerations has worked best when services and administrations (national, regional and within the Commission) responsible for the environment have been involved in how funds are designed and spent.

This has generally been the case for example in the design and implementation of operational programmes for *cohesion policy funds*. **Cohesion policy** had not set a specific quantitative objective for environmental investments, but direct environmental investments have been supported by considerable mainstreaming and indirect environmental spending.

Although public funds have an essential role, it is clear that they will not be sufficient – private capital must play its part. This explains why sustainable finance has grown from a niche topic to a mainstream issue in the financial world, as witnessed by the growth of the green bonds market.

The sustainability transition entails significant investments in the short run and a comprehensive shift in how the financial system works. The investment needs for achieving the SDGs worldwide are estimated to be EUR 4.5 to 6 trillion globally[240]. Around EUR 180 billion of additional investments are needed to achieve the EU's 2030 targets agreed in Paris. Beyond energy and climate policy, there is a gap in terms of compliance with the EU environmental law, and bridging this gap will require large amounts of investments.

Beside the legislative measures announced in 2018, the sustainable finance action plan also sets out non-legislative measures that are complementary and expected to have an important impact. These include the development of an EU Green Bonds Standard and of EU Ecolabel criteria for green investment products, as well as the review of disclosure requirements by large companies (e.g. through updating the guidelines to the Non-Financial Reporting Directive).

6.2 Addressing environmental externalities

Sub-objectives:

- **The value of natural capital and ecosystem services**, as well as **the costs of their degradation** are properly assessed and considered in policy-making and investments.

Actions:

- **Phasing out environmentally harmful subsidies** at Union and Member State level without delay, and reporting on progress through the **National Reform Programmes**; increasing the use of **market-based instruments**, such as Member States' taxation policies, pricing and charging, and expanding markets for environmental goods and services, with due regard to any adverse social impacts, using an action-based approach, supported and monitored by the Commission, inter alia, via the European Semester.

Introduction

Most environment related **market-based instruments (MBI)** in use around the world are price-based instruments, such as environmental taxes, charges and subsidies. Pricing instruments encourage action to reduce environmental damage at least cost and should play their part in any green growth policy. They provide incentives for efficiency gains, green

[240] "Reflection paper: Towards a Sustainable Europe by 2030", European Commission

investment and innovation and shifts in consumption patterns. Increased or more effective use of environmentally related taxes can drive growth-oriented reform by shifting the tax burden away from more distortive taxes such as labour or corporate taxes, and can support deficit reduction.

Environmentally harmful subsidies are a result of a government action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs. However, in doing so discriminates against sound environmental practices. Most often **environmentally harmful subsidies** take the form of a preferential tax treatment. Since tax policy remains in the hands of Member States, the Commission has a limited scope for intervention in situations where a Member State complies with EU legislation. Therefore defining a target remains a challenge and the instruments put in place are mainly guidance/recommendations and best practices exchange.

Assessing and valuing **natural capital** and the wide range of benefits that we derive from nature can inform better decision-making. There is support for this from the financial instruments: in particular, the Natural Capital Financing Facility was launched in 2015 to support projects promoting the preservation of natural capital, including adaptation to climate change.

Current situation

The EU working group on mapping and assessment of ecosystems and their services (MAES) has developed an analytical framework to map and assess the state of ecosystems and their services, and indicators to assess the condition of ecosystems and their services. These approaches are currently being applied by the EU and the 28 Member States.

In parallel, the EU knowledge innovation project on an Integrated System for Natural Capital and Ecosystem Services Accounting (KIP INCA) is developing an integrated natural accounting system for ecosystems and their services and associated data sets. Natural capital accounting is a tool to measure the changes in the stock of natural capital at a variety of scales and to integrate the value of ecosystem services into accounting and reporting systems at EU and national level.

MAES and KIP INCA developments are interconnected and a first EU-wide assessment joining up biophysical mapping and assessment with valuation and accounting and valuation will be delivered by 2020.

At international level, the EU contributes (EUR 7 million) to the UN via the partnership programme for the development of valuation and accounting standards for ecosystems, such as the UN SEEA. Furthermore, the EU contributes (EUR 8.5 million) to the UN via the partnership programme for the implementation of the economics of ecosystems and biodiversity in the agriculture and food sector.

In May 2018, the Commission began implementing key actions announced in its action plan on sustainable finance, which were informed by recommendations by the High Level Expert Group on sustainable finance. These actions include fostering natural capital assessment and disclosure, and making environmental, social and governance issues more specific in investor duties.

The EU Business@Biodiversity (B@B) platform is supporting efforts to improve and possibly standardise natural capital assessments by companies and biodiversity foot-printing methodologies and metrics for businesses and financial investments. This will also be

supported by a Horizon 2020 project for mainstreaming natural capital in policies and in business decision-making "We Value Nature" (EUR 2 M EU)

Phasing out environmentally harmful subsidies and increasing the use of market based instruments

The EU Flagship Initiative for a Resource-Efficient Europe calls for **environmental taxes** to account for 10% of total tax and social contribution revenues by 2020. Eurostat data[241] shows that in 2017 the level of the total environmental tax revenue in the EU was around EUR 25 billion higher than in 2014, having increased by 1.8 % per year (at current prices) on average whereas GDP at market prices rose at an annual average of 2.3 %. As a share in total tax revenues, environmental taxes revenues fell by 0.19 percentage points (6.14 % of total tax collected in 2017). Energy tax revenues constitute the main component of environmental tax receipts for almost all countries, accounting for some 77 % of EU-28 environmental tax revenues. Of these energy tax revenues transport fuel taxes represent around 70 % of receipts followed by non-fuel transport taxes (20 %) and pollution / resources taxes (3 %). A low level of pollution and resource taxes does not necessarily mean that they are not in place: instruments addressing pollution and resource extraction are often implemented at local level (often as levies or charges) and they are not captured by Eurostat data.

There is a commitment to phasing out **environmental harmful subsidies** by the EU and its Member States. This is monitored through the European Semester process, where recommendations in this respect were issued to a number of Member States (mainly linked to transport and energy taxation, in one case to water pricing), were followed (or an announcement was made that they will be implemented) in most of the cases. Changes were introduced in particular in energy taxation (reducing tax gap between diesel and petrol, phasing out tax exemptions to some sectors) and the rules on company cars.

The Commission is establishing regular monitoring of **fossil fuel subsidies** in the EU and expects Member States to use their energy and climate plans to monitor the phase-out of fossil fuel subsidies. The Commission's biannual report on energy prices and costs in Europe extends the analysis of fossil fuel subsidies to the agriculture and transport sectors[242]. In this report, the Commission estimates[243] that FFS have increased by 3 % between 2008 and 2016 to EUR 55 billion (in 2017 prices), driven by tax expenditures for consumption of petroleum products in the transport and agriculture sectors. If 'external costs' like air pollution and health costs of fossil fuel combustion are counted in, fossil fuel subsidies are around EUR 300 billion a year in the EU.

As regards taxation and subsidies harmful to environment, the Commission has limited powers to oblige Member States to meet the targets set in the 7th EAP. Nevertheless, experience with the use of market based instruments has grown over the past two decades. Recommendations put forward in the European Semester, national budgetary constraints and legislative requirements (for example the Energy Union package and the Plastic Bags Directive), triggered positive changes in certain Member States. Examples of pricing

[241] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Environmental_tax_statistics and DG TAXUD (forthcoming) - Taxation trends in the European Union, 2019 edition, https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/taxation-trends-eu-union_en.

[242] Report from the Commission COM(2019) 1 final on Energy prices and costs in Europe and its accompanying Staff Working Document.

[243] Underlying reports and annexes: https://ec.europa.eu/energy/en/data-analysis/energy-prices-and-costs

instruments can be found across a wide range of policy areas, and their use is becoming more common (often as part of nudging or behavioural economics policies). The main focus to date has been in the areas of energy, transport and climate, with limited action on pollution and resource use.[244]

Examples of the use of market-based instruments:

- The Water Framework Directive has encouraged Member States to carry out economic analyses of water pricing, which led to changes in water pricing in some Member States.
- EU Waste legislation provides a global framework for the extended producer Responsibility (EPR). The EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle policies. As the Member States are responsible for implementing EPR, the EPR policies are implemented in a heterogeneous manner across the EU.
- An increasing number of Member States have implemented taxes or charges on plastic bags, generally targeting single-use plastic bags. One of the first Member States to introduce a specific levy on plastic bags was Ireland. Since its introduction in 2002, plastic bag use has fallen sharply, and the share of plastic bags as a proportion of litter has fallen from an estimated 5% in 2002 to 0.27% in 2017.
- A number of Member States reflected recommendations put forward by the EU and carried out changes in environmental taxation. Belgium exploited the opportunities for environmental tax reform and removal of environmentally harmful subsidies by raising taxes on diesel fuels addressing a higher environmental impact of the fuel, introducing a kilometre-charge for lorries in all Belgian regions, charges to vehicle circulation and road taxes in Flanders. Portugal carried out a green tax reform aimed at promoting a more sustainable economic development model. The reform introduced a number of changes including on carbon taxation, energy excise duties, vehicle taxation and taxation on plastic bags.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

Natural capital

The Commission has made good progress in supporting Member States through the development of a framework and tools. For example, the forthcoming guidance on ecosystems and decision making should help towards this, supported by concrete follow-up actions to support Member States to implement it. Furthermore, the Commission's support to

[244] IEEP, Capacity Building for Environmental Tax Reform (2017).

TEEB and the Economics of Land Degradation are also contributing to this effort by providing concrete support on integrating natural capital into decision-making. Experience with the natural capital financing facility (NCFF) shows that there is growing interest in ecosystem-based natural capital investments.

Phasing out environmentally harmful subsidies and increasing the use of market based instruments

As regards **taxation** and **subsidies harmful to environment**, the Commission has a limited role in obliging Member States to comply with the objectives of the 7th EAP, with taxes usually being the responsibility of Member States in line with the principle of subsidiarity. Nevertheless, recommendations put forward in the European Semester, national budgetary constraints and legislative requirements (for example the Energy Union package, Plastic Bags Directive), triggered positive changes in certain Member States. Whilst the overall level of **green taxes** has remained relatively constant over time, green taxes have been used successfully in some contexts (such as to reduce plastic bag littering). Examples of **pricing instruments** can be found across a wide range of policy areas, and their use is becoming more common (often as part of nudging or behavioural economics policies). The main focus to date has been in the area of energy, transport and climate, with limited action in relation to issues of pollution and resource use.[245]

Overall, in spite of growing interest and positive trends, Member States have not pushed the widespread use of market-based instruments /pricing instruments in the environmental area. Experience in implementing market-based instrument/pricing instruments in a range of environmental areas shows that they can be effective if best practice is learnt from in terms of influencing their acceptability. This includes the importance of certain design aspects such as the definition of tax-payers, tax-base, rates applied and predictability of their increase. The acceptability and effectiveness of the instruments is also linked to the wider policy mix in which they are introduced and implemented, successful engagement and communication with stakeholders, consideration of who pays and affordability, the administrative support provided and administrative burden involved.

6.3 Beyond GDP

Sub-objectives:

- To further develop indicators to monitor economic progress which complement and go beyond GDP. This will help getting a proper evaluation of environmental goods, of natural capital and ecosystems services and of links between environment and economy, and also supports the outcome of Rio+20 and the 2030 Agenda for Sustainable Development.

Actions:

- Developing and applying alternative indicators that complement and go beyond GDP to monitor the sustainability of progress and continuing work to integrate economic indicators with environmental and social indicators, including natural capital accounting.

[245] IEEP, Capacity Building for Environmental Tax Reform (2017).

Introduction

In 2009 the Commission adopted a roadmap[246] on 'GDP and beyond' in view of developing measurement tools to complement the GDP indicator. The initiative received the support of the other EU institutions, the Committee of the Regions and the Economic and Social Committee and an action plan was established. This was followed by an assessment of progress[247] in 2013.

Sub-actions set out in the Beyond GDP roadmap include:

1) Complementing GDP with environmental and social indicators
   ⇨ a comprehensive environmental index & quality of life and well-being
2) Near real-time information for decision-making
   ⇨ more timely environmental and social indicators
3) More accurate reporting on distribution and inequalities
4) Developing a European sustainable development scoreboard
   ⇨ a sustainable development scoreboard and thresholds for environmental sustainability
5) Extending national accounts to environmental and social issues
   ⇨ Integrated environmental-economic accounting & increasing use of existing social indicators from national accounting.

Current situation

The EU has achieved many of the deliverables in the roadmap, namely:

- adoption of the Regulation on environmental economic accounts, covering six modules (some key environmental indicators 'beyond GDP' are derived from these modules, e.g. resource productivity and jobs/added value in green sectors) and work on natural capital accounting;
- developing and using more environmental and social indicators to monitor EU key policies, like circular economy and resource efficiency, the EU pillar of social rights, Energy Union and Sustainable Development Goals, and the European Semester;
- research projects on Beyond GDP: Brainpool, E-Frame and Web-COSI Web communities for statistics for social innovation also delivered interesting results / recommendations.

The **Commission (DG Environment)** also publishes a dedicated website, Beyond GDP[248] to track relevant initiatives in this area.

Eurostat has been active in the methodological work (in particular to improve social and environmental indicators and develop the environmental economic accounts) and has worked closely with the national statistical institutes in the Member States. In 2015 the Commission adopted the 2015-2018 action plan for GDP and beyond (2020). This was endorsed by the European Statistical System Committee, and follows a previous one covering 2012-2014. The action plan covers three main areas:

1. multidimensional measurement of the quality of life;
2. household perspective and distributional aspects of income, consumption and wealth ;

[246] COM (2009) 433.
[247] SWD (2013) 303.
[248] http://ec.europa.eu/environment/beyond_gdp/index_en.html

3. environmental sustainability.

Eurostat publishes a website on GDP and beyond[249] and a European Statistical System website on measuring progress[250].

Since 2012 there have been many initiatives on developing and using Beyond GDP measurements in the Member States. The most relevant ones were from France, Belgium and Italy, which have adopted 'beyond GDP indicators' laws. Germany and the Netherlands have also launched major initiatives.

Beyond the Commission, other institutions, in particular the **European Parliament** and the **Committee of the Regions** have shown interest in using Beyond GDP indicators in EU policy making.

Outside the EU, various international organisations (OECD, WB, UNEP, WEF, UNDP) have worked on producing Beyond GDP measures.

Overall, there has been major methodological work on indicators, to improve existing statistics and accounting, and define specific monitoring frameworks to assess progress in key policies.

The Commission currently uses a wide set of indicators, mostly covering economic, social and environmental issue in monitoring tools for high level policies (like the SDGs, the circular economy, resource efficiency, energy union, the Pillar of Social Rights and the European Semester).

However, many indicators lack high statistical quality and new indicators still need to be developed or are a work in progress. New indicators (including on the consumption footprint) should build on existing data and/or new data coming from different sources: official statistics, data from reporting obligations, geospatial data (including Copernicus), research, modelling and citizens science.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

During the last decade, the Beyond GDP concept has been embedded in many initiatives to monitor progress at EU, national and international level, and so is likely to have some influence on the assessment of and design of policy.

[249] http://ec.europa.eu/eurostat/web/gdp-and-beyond

[250] http://ec.europa.eu/eurostat/web/ess/about-us/measuring-progress ; http://ec.europa.eu/eurostat/documents/7330775/7339383/Measuring-Progress-Well-being-sustainable-development/ef61b63c-02f0-4aa6-8155-42fdc0833018

There are now multiple data sources to be exploited: official statistics, data from reporting obligations, geospatial data, surveys, research, modelling, citizens' science and big data. Data are getting closer to politicians, who show an increasing interest in using high quality indicators to better understand the problems and challenges, to define the policy measures needed to tackle them and to evaluate progress towards the objectives. These data are being used to produce overall indicators sets such as the SDG Indicators. There are through questions over the influence of these indicator sets and how concretely they feed through into policy design, implementation or evaluation.

7 PRIORITY OBJECTIVE 7: Full integration of environmental requirements and considerations into other policies

7.1 Improving integration and coherence

Sub-objectives:

- Sectoral policies at Union and Member State level are developed and implemented in a way that supports relevant environment and climate-related targets and objectives.

Actions:

- **Integrating environmental and climate-related conditionalities and incentives** in policy initiatives, including reviews and reforms of existing policy, as well as new initiatives, at Union and Member State level;
- Carrying out **ex-ante assessments of the environmental, social and economic impacts of policy initiatives** at appropriate Union and Member State level to ensure their coherence and effectiveness;
- Fully implementing the **Strategic Environmental Assessment Directive and the Environmental Impact Assessment Directive**;
- Using **ex-post evaluation information** relating to experience with implementation of the environment acquis in order to improve its consistency and coherence
- **Addressing potential trade-offs in all policies** in order to maximise synergies and avoid, reduce and, if possible, remedy unintended negative effects on the environment.

Introduction

Environmental integration means ensuring that environmental concerns are fully considered in the decisions and activities of other sectors.

In 2001, the European Council adopted the EU sustainable development strategy, which led the Commission to introduce an impact assessment for all major policy proposals. Impact Assessments provides information on the trade-offs between the economic, social and environmental dimensions of sustainable development to inform decisions and help promote policy coherence. In 2015, the Commission strengthened its system for impact assessments, and also ensured a subsequent evaluation was undertaken systematically through its new commitment to better regulation.

The European Commission is also promoting better regulation principles more widely. EU legislation ensures that environmental assessments are carried out on plans, programmes and projects that are likely to significantly affect the environment. These tools complement and support the subsequent and prior analysis done by Member States in line with their own procedures.

Integration is important because so many environmental impacts occur in other policy sectors. Analysis suggests that energy, food systems, mobility and housing also have a significant impact on the environment. To ensure coherent policymaking environmental concerns need to be properly integrated into these four policy areas.

Current situation

a) Policy assessment in the Commission

The Commission has committed to a more significant and systematic approach in carrying out ex-post evaluations of its own policies, and there has been a considerable increase in such evaluations. The key indicators show that environmental policy is frequently evaluated in order to identify ways to simplify it and improve its implementation. Also, policies in other areas are subject to ex-post evaluations; these evaluations also cover the environmental impacts of these policies. Moreover, when a policy is revised, the Commission undertakes an impact assessment. Both evaluation and impact assessment are required to have proportionate and integrated assessments of economic, social and environmental impacts.

- Over the last 5 years, the percentage of the EU law adopted by DG Environment that was subject (ongoing or finalised) to an ex-post evaluation was 13 % in 2013, rising to 58 % in 2016.

Examples include:

- the **'fitness check' evaluation of the Birds and Habitats Directives** , which concluded that they remain highly relevant and are fit for purpose. However, full achievement of the objectives of these Directives will depend on their implementation substantially improving. Based on the findings, the Commission decided to develop an **action plan**, to address the shortcomings identified during the evaluation and improve the Directives' coherence with broader socio-economic objectives.
- The **REACH evaluation and chemicals fitness check** concluded that chemicals legislation is reducing the health and environmental pressures from chemicals. Again, the evaluation process identified measures to improve the effectiveness of the legislation and reduce the regulatory burden associated with them.
- The impact assessment accompanying the proposal for '**Reducing Marine Litter: action on single use plastics and fishing gear'** identified the single-use plastics as the main problem, as well as proportionate measures to reduce their impact on the environment (including bans for certain products) and the economic, social and environmental impacts associated with them.

However, there is, an issue about how the Commission can further respond to its commitment: "*The Commission will mainstream the Sustainable Development Goals into EU policies and initiatives, with sustainable development as an essential guiding principle for all its policies. Existing and new policies should take into account the three pillars of sustainable development, i.e. social, environmental and economic concerns. The Commission will to this effect ensure that its policies are sustainability-assured through its better regulation tools*."[251]

b) Policy assessment in the Member States

[251] Next Steps for a Sustainable European Future, Commission Communication, November 2016.

Environmental assessment can be undertaken for individual projects, such as a dam, a motorway, an airport or a factory, based on Directive 2014/52/EU (known as 'environmental impact assessment' EIA Directive) or for public plans or programmes based on Directive 2001/42/EC (known as 'strategic environmental assessment' SEA Directive). The Directives aim to provide a high level of protection for the environment and to help integrate environmental considerations into the preparation of projects, plans and programmes in order to reduce their environmental impact. They ensure public participation in decision-making and thereby strengthen the quality of decisions.

The amended EIA Directive entered into force on 15 May 2014 to simplify the rules for assessing the potential effects of projects on the environment. It is in line with the drive for smarter regulation, so it reduces the administrative burden. It also improves the level of environmental protection, which helps to make business decisions on public and private investments more sound, more predictable and sustainable in the longer term.

The 2017 implementation report for the SEA Directive found that it was being widely applied; there is also an ongoing evaluation for this Directive.

- Around 25,000 environmental impact assessments a year are carried out in Europe, along with a number of strategic environmental assessments. The evidence is that these assessments are helpful and are ensuring better environmental integration, albeit with the scope for better implementation. There is though a lack of systematic evaluation and impact assessment undertaken at Member State level – or at least a lack of those that are transparently published and made available to stakeholders.

Surveys that concern Member State evaluations and impact assessment of their policies generally find that they have a commitment in place. However, in many cases they have not committed to an integrated analysis, thus weakening the commitment to coherence. Also, these are often commitments on paper but not in practice, as few Member States systematically undertake such analyses and these are almost never publicly available. The result is that the pipeline of analysis from the Member States to the Commission often does not flow properly, and that the information needed for the Commission analyses is not always available when needed.

c) Policy coherence – example

The policy areas of agriculture, energy and mobility are routinely identified as key policy areas for environmental mainstreaming as they have significant environmental implications and opportunities, whilst clearly serving other policy needs. Stakeholders are often critical of whether the trade-offs have been properly considered and argue for further environmental mainstreaming.

Agriculture: The CAP reform of 2013 introduced a number of elements that reinforced the consistent between this and environmental and climate policies. However, nott all of these elements have yielded the intended level of results. The Commission has also undertaken evaluations related to the CAP, one of which concerns the greening payment.

The mechanisms by which the current CAP aims to ensure policy coherence with other policies include:

- cross-compliance, which includes a list of good agricultural and environmental conditions and statutory mandatory requirements;

- greening payments, for practices concerning the protection of a share of permanent grasslands, the declaration of certain surfaces as ecological focus areas for the purposes of protecting biodiversity, and obligations to diversify crops;
- in rural development plans, measures such as agri-environmental commitments, conversion into and maintenance of organic farming, compensation for obligations arising out of the Water Framework and Natura 2000 Directives, and non-productive investments, including forestry and agroforestry schemes;
- a number of eligibility rules and conditions on investments funded by the EAFRD to avoid investments that are harmful to the environment and climate, in areas such as afforestation and irrigation;
- a number of preconditions that Member States had to comply with before receiving certain EARFD funds.

On 1June 2018, the Commission published the legislative proposals for the next CAP (2020-2027). These proposals aim to ensure a higher degree of ambition for the environment and climate.

Energy: In 2016, under the Energy Union, the Commission adopted proposals for a number of legislative instruments that will affect the environment. The 'Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework' addresses how the EU's greenhouse gas commitments will take into account changes in the amount of carbon in the EU's terrestrial ecosystems. The instrument aimed to fill a major gap in climate and energy policies by mandating that the impact of certain activities, such as deforestation, afforestation, the management of forests, and certain agricultural land management activities be accounted for.

In 2018, the recast of the Renewable Energy Directive was adopted for the post-2020 period (RED Recast). Among other things, it reinforced the EU's sustainability criteria for bioenergy by extending their scope to cover, for the first time, solid biomass and biogas for heat and power, in addition to biofuels for transport and bioliquids for non-transport uses. The recast of the Directive also added specific sustainability criteria for forest biomass and minimum energy efficiency requirements for larger biopower plants.

Furthermore, the Directive continues to set an upper limit to the contribution of food- and feed-based biofuels towards the renewable energy targets. The Directive also includes a specific national limit and a gradual phase out until 2030 for those biofuels associated with the high risk of indirect land use change, which leads to increased GHG emissions and biodiversity loss.

Mobility: EU policy seeks to help European transport systems meet the challenges facing them. These include decarbonisation and the need to reduce the dependency on oil imports (regardless of improvements in energy efficiency, transport still depends on oil for 95 % of its energy needs). The EU supports research & innovation, and the effective deployment of new green transport technologies. For example, new rules require EU countries to promote clean technologies (cars that run on electricity/hydrogen, gas-powered trucks/barges/ships) by building a minimum number of recharging and refuelling stations.

Summary

State of implementation of the policy area

☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The Commission is working hard to ensure policy coherence, and that knowledge and expertise are shared across the board. One of the main tools for doing this has been better regulation, which supports integrated analyses of the economic, social and environmental impacts of Commission policies, supported by transparent stakeholder consultations. Whilst the Commission is recognised as a leader in better Regulation, it needs to ensure its policies are better linked to the SDGs, and to improve its processes.

The objective of the environmental impact assessment and the strategic environmental assessment procedures is to provide a consistent framework in which the responsible national authorities and business can operate while ensuring that relevant environmental information and concerns are taken into account when decisions are made. All EU Member States have adopted environmental assessment procedures at planning, programming and project level. To this end, the objective of the two directives has been accomplished, without prejudice to possible breaches. The Commission delivered its guidance on streamlining the environmental assessments on time as due under the revised EIA Directive. Most Member States have completed the transposition of the revising EIA Directive in time. The Commission is currently evaluating the SEA Directive as part of its regulator fitness and performance programme. More generally, the Member States need to make their evaluations and impact assessment work transparently and make them available to stakeholders.

There are positive examples of sectoral policies that better reflect environmental concerns, for example, in efforts to improve the energy efficiency of the construction sector or to support cleaner cars. Nevertheless, there are some stakeholders that continue to have concerns over some sectoral policies and the lack of consistency with the good intentions to adequately lead to proper greening 'on the ground'.

7.2 European Semester

Sub-objectives:
Actions: • **Integrating environmental and climate-related considerations into the European Semester process**, where this is relevant for individual Member States' prospects for sustainable growth and is appropriate for country-specific recommendations;

Introduction

The European Semester provides a framework for coordinating economic policies across the European Union. It allows EU countries to present and elaborate on their economic and budget plans and monitor progress. The 7th EAP considers the European Semester to be an instrument that supports integration of the environment into economic policies, helping Member States to improve the use of economic instruments to achieve environment policy objectives.

Current situation

The Commission works with Member States to step up the use of economic instruments to achieve environmental policy objectives. In the context of the European Semester process, the Commission advocates the transition to the circular economy, appropriate investments in environmental infrastructure, the greening of tax systems, boosting eco-innovations, phasing out environmentally harmful subsidies and removing other obstacles to green growth.

Progress towards the Europe 2020 target of reducing EU greenhouse gas emissions by 20 % by 2020 is monitored in the European Semester in the form of Member States progress towards their targets under the Effort Sharing Decision. Challenges in reaching the targets are seen in the context of other economic challenges, for example investment needs in the transport and energy sectors.

After a fall in 2015 due to the Semester taking on a more focused approach , the number of environmental references in the Semester country reports and country specific recommendations (including recitals) has gradually increased, reflecting the renewed interest in bottlenecks to sustainable growth triggered by the economic recovery in many European economies. These references concern, for example, the need for a transition to the circular economy, the need to shift taxation towards use of natural resources and away from labour, the need to invest more in water, waste and wastewater infrastructure, and the need to reduce the costs that result from air pollution, floods and forest fires. In 2018, climate-relevant country-specific recommendations were adopted for 2 Member States, and climate-relevant recitals for another 3 Member States. These concerned in particular the need to reduce greenhouse gas emissions from the transport sector. In addition, in 2018, there were environmental CSRs for three countries: on traffic congestion and related air pollution (Belgium, also a recital for Luxembourg), on water infrastructure (Ireland) and waste and water infrastructure (Romania).

In 2013 an Expert Group was established on "Greening the European Semester." This group meets twice per year and facilitates exchange of data and good practices between the Commission and Member States. As from 2017, the Expert Group also discusses the Environmental Implementation Review (EIR) to promote synergy between it and the Semester. The exchanges in the Expert Group have motivated national ministries to better integrate environmental needs into their national reform programmes, with good results in some countries (e.g. Italy and Belgium).

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

The 7th EAP has created support for better implementation through the EIR, as well as greater awareness about better integration (e.g. through the Semester) being a means to achieve

better implementation. Member States have acknowledged that the Semester and the EIR are mutually reinforcing tools, which share a country-specific approach.

However, there have been no calls in the 7th EAP to use the Semester as a means to reach agreement on a lead indicator and target on resource efficiency. The Country Reports and also the Country Specific Recommendations cover environmental topics relevant for sustainable growth. In particular, this applies to climate change, as the carbon emission reduction 2020 target is included in the Europe 2020 Strategy. Topics such as waste, air quality, transport congestion are also discussed and the green tax shift and phasing out of EHS mentioned. Therefore, the Semester has been a useful means of supporting improved implementation complemented by the success of the Environmental Implementation Review (EIR).

8 PRIORITY OBJECTIVE 8: To make the Union's cities more sustainable

8.1 Sustainable cities

Sub-objectives:

- A majority of cities in the Union are implementing policies for sustainable urban planning and design, including innovative approaches for urban public transport and mobility, sustainable buildings, energy efficiency and urban biodiversity conservation.

Actions:

- Agreeing on a set of **criteria to assess the environmental performance of cities**, taking into account economic, social and territorial impacts;
- Ensuring that cities have information about, and better access to, **financing** for measures to improve urban sustainability;
- **Sharing best practice** between cities at Union and international level in relation to innovative and **sustainable urban development**;
- In the context of ongoing Union initiatives and networks, developing and promoting a **common understanding of how to contribute to improved urban environments** by focusing on the **integration of urban planning** with objectives related to resource efficiency, an innovative safe and sustainable low-carbon economy, sustainable urban land-use, sustainable urban mobility, urban biodiversity management and conservation, ecosystem resilience, water management, human health, public participation in decision-making and environmental education and awareness.

Introduction

Cities are where the environmental problems arise, but also, where the solutions are to be found. Progress has been made - many cities have started applying sustainable development approaches – not least thanks to the European Green Capital Award (EGCA)[252]/ European Green Leaf Award (EGL)[253] applicants and winners. However, more cities need to be mobilised to achieve real change on a European scale. The EU supports cities not only through continuous policy development in areas that are essential to a city's environmental

[252] http://ec.europa.eu/environment/urban/egc.htm
[253] http://ec.europa.eu/environment/urban/egl.htm

performance, such as air, water or waste, but also through helping to build the capacity and knowledge needed to make cities more sustainable - including the EGCA/EGL, peer-to-peer tools and the Green City Tool[254].

Adaptation strategies are needed at local, regional, national, EU and international levels in order to anticipate the adverse effects of climate change and prevent or minimize the damage. Such strategies often have an urban dimension, and cities have a major role in their implementation. The Covenant of Mayors for Climate and Energy is the main channel for EU support to help cities adapt to climate-change. Adaptation is complementary to efforts to cut greenhouse-gas emissions in cities.

Current situation

While the 7th EAP was being implemented more than 15 % of all EU cities eligible for the European Green Capital Award took part . This onerous application process for the award requires the development of a genuinely integrated urban plan based on a sustainable vision for the city. The Green Leaf Award for smaller cities was also launched and has seen its uptake begin to increase. A financial incentive is now available for cities seeking to win the awards.

The Green City Tool was also launched to extend the influence of the environmental criteria needed to apply for the awards to those cities that are unlikely to consider themselves as candidates. This tool establishes a set of key indicators that define what good city governance is in terms of sustainable urban planning. The tool allow cities to perform a simple environmental assessment of their approach and compare their results to those of others.

In 2016, the Pact of Amsterdam was signed and established as the **Urban Agenda for the EU**. Based on the principles of subsidiarity and proportionality, the Urban Agenda focuses on the three pillars of EU policy making and implementation: better regulation, better funding and better knowledge. 14 partnerships were established in key areas of urban policy including air quality, urban mobility and the circular economy. Cities, Member States, the Commission and key businesses and NGOs are working together to produce action plans to make EU policies better suited to cities and to improve the knowledge and financing available for cities. The Commission has also launched a one-stop shop[255] for cities to access information on policies and the funding options available to them.

While there is no direct legal basis for action on urban issues, some legislation is very relevant to cities, such as that on clean air, waste management, nature (species and habitats), urban waste and wastewater, drinking water, flood protection, environmental assessment and noise. The EU investment in urban projects under Horizon 2020 (2014-17) amounts to around EUR 1.7 billion for 612 projects across its three pillars, of which around EUR 450 million was for demonstration projects in the area of smart and sustainable cities. As an example, the scheme 'Smart cities and communities with nature-based solutions' was financed, to better take account environmental considerations when making cities 'smart'.

The Covenant of Mayors (launched in 2008 in Europe) has continued to grow throughout the 7th EAP period. Its aim to is gather local governments voluntarily committed to achieving and exceeding the EU climate and energy targets.

[254] https://webgate.ec.europa.eu/greencitytool/home/
[255] http://ec.europa.eu/regional_policy/en/policy/themes/urban-development/portal/

Together with the Covenant of Mayors Office, the Commission **informs, mobilises and supports local authorities in taking climate mitigation and adaptation action**. Both the Commission and the Covenant Office:

- raise awareness,-including on access to financial opportunities;
- encourage political commitment from local authorities to take action;
- promote their local commitments and actions via the Covenant's communication channels;
- assist Covenant signatories via a helpdesk, technical guidance, including for monitoring and reporting, capacity-building events and webinars;
- facilitate peer-to-peer networks and exchange of experiences and good practices;
- manage a city twinning programme; and
- Host online discussion forums and networking events.

The Commission and the Covenant Office also engage other governance levels and stakeholders (States, regions, provinces, national / thematic agencies or organisations, etc.) and co-ordinate work with third parties. The Commission's Joint Research Centre cooperates with the Covenant Office to provide comprehensive technical guidelines, templates and feedback to local authorities for the preparation, implementation and monitoring[256] of the latter's commitments.

The Commission mobilises **financial support** for Covenant signatories at EU level. Indeed, the Commission ensures that part of the EU funds and financial instruments (e.g. European Fund for Strategic Investments, European structural and investment funds, (including urban innovative actions and URBACT) LIFE, LIFE Natural Capital Financing Facility, and Horizon 2020) supports Covenant signatories in implementing their commitments on climate change mitigation and adaptation. The Commission also contributes to providing advice and technical assistance through financing local climate change mitigation and adaptation projects, e.g. through URBIS, which is a new dedicated urban investment advisory platform, and the Joint Assistance to Support Projects in European Regions (JASPERS) (also under the ESIF).[257]

In 2015, the Commission launched the new **Covenant of Mayors for Climate & Energy**, integrating both the Covenant of Mayors and the Mayors Adapt initiatives. The new Covenant therefore covers sustainable energy, climate change mitigation and adaptation, as well as access to energy. In 2017, the Covenant of Mayors for Climate and Energy and the Compact of Mayors merged to form the **Global Covenant of Mayors for Climate and Energy**. Currently **more than 7 000 EU local authorities** from the 28 Member States, **representing almost 200 million inhabitants**, have signed up to the Covenant of Mayors for Climate and Energy, committing to develop, implement and report on sustainable energy and climate change mitigation and/or adaptation plans.

As set out in the 7th EAP, a **set of criteria** to assess the environmental performance of cities has now been established and incorporated into a tool that allows for this assessment to be undertaken. The indicators underpinning the Green City Tool are a newly developed set that

[256] At the start of 2017, in consultation with the signatories, the Covenant of Mayors Office developed an updated and integrated monitoring and reporting framework, which includes mitigation and adaptation reporting requirements.

[257] The EUROPA Cities topic webpage, Climate adaptation in cities, Funding opportunities and advice,: https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities/priority-themes/climate-adaptation-cities_en#funding-opportunities-and-advice

are based on city governance rather than on specific quantitative indicators. The Green City Tool indicator set was developed to benchmark the progress being made in governance by a city. It included the questions:

- Has it measured and monitored an environmental issue?
- Has it set a target for improvement?
- Has it developed a strategy that is backed financially and politically?
- Was it developed with proper stakeholder/Europeans involvement. The tool also allows the city in question to be benchmarked against others and provides detailed guidance on good urban planning in all the indicator areas covered by the Green Capital and Green Leaf Awards. Fact sheets on best practices in all areas produced by award winners are also available.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

Overall, there has been substantial progress towards meeting the specific actions. The procedure for cities to access information on developing a good sustainable urban planning process has improved significantly:.

- the set of criteria are in place, with a tool for easy access; and
- the Green Capital and Green Leaf Awards are well established and now offer a financial incentive for their use.

A range of new sources of best-practice and guidance are now available, through the Green City Tool, and via programmes such as URBACT. Access to information on Commission policies and financing available to cities has also been established through the Urban Agenda for the EU, with a one-stop-shop now in place for urban matters.

The Covenant of Mayors for Climate and Energy has strengthened the sustainability of the EU's cities by providing them with information on climate action as well as mobilising and supporting them in this area. Estimates show that a majority (around 70%) have adopted a climate mitigation plan, contributing to sustainable urban planning and design. However, regarding climate change adaptation, the proportion of adopted plans would still represent a minority (around 25 %) of EU cities . These proportions will need to continue increasing in the coming years. In this sense, we can see that, where there were binding measures at national level requesting the development of local climate plans the percentage of local authorities with a local adaptation strategy was two to five times higher.

As regards implementing local climate plans, thousands of actions are being carried out in relation to these plans and that a section part of the Covenant community has already significantly reduced greenhouse gas emissions (23 % in 2014 against the baseline year chosen by the city). However, for the moment, we lack a clear and complete picture on the

degree of implementation of local climate plans, since not all cities are part of the Covenant[258] and only a minority of Covenant cities have submitted their monitoring reports. Further studies and/or surveys would need to be carried out in order to obtain a clearer and more complete picture on the degree of implementation of local climate plans.

9 PRIORITY OBJECTIVE 9: To help the Union address international environmental and climate challenges more effectively

9.1 Implementation of Rio+20 outcomes

Sub-objectives:

- The outcomes of Rio + 20 are fully integrated into the Union's internal and external policies and the Union is contributing effectively to global efforts to implement agreed commitments, including those under the Rio conventions and to initiatives aimed at promoting the global transition towards an inclusive and green economy in the context of sustainable development and poverty eradication;

Actions:

- Working as part of a coherent and comprehensive post-2015 approach to the universal challenges of poverty eradication and sustainable development, and through an inclusive, collaborative process, towards the adoption of sustainable development goals that:

a) are coherent with existing internationally agreed goals and targets on, inter alia, biodiversity, climate change, social inclusion and social protection floors;
b) address, at national and international level, priority areas such as energy, water, food security, oceans and sustainable consumption and production, decent work, good governance and the rule of law;
c) are universally applicable, covering all **three dimensions of sustainable development**;
d) are assessed and accompanied by targets and indicators, while taking into account different national circumstances, capacities and levels of development, and
e) are consistent with, and supportive of, other international commitments, such as those concerning climate change and biodiversity;

Introduction

Rio +20 outcomes are relevant in policy areas such as land degradation, marine biodiversity, water, sustainable energy, sustainable consumption and production and food and agriculture. Also, green economy was recognised as an important instrument towards achieving sustainable development and changes were set in motion towards a better global environment and sustainable development governance and a process started on financing for sustainable development.

Overall, Rio provided fresh impetus to a concept of sustainable development, taken as a holistic notion. Rio+20 reaffirmed the need to amalgamate efforts to eradicate poverty and those to secure sustainability within our planetary limits. To bring this integrated approach forward, Rio+20 launched a process towards the establishment of SDGs.

[258] From the 323 EU local authorities with a population of more than 150,000 inhabitants, 84 have signed up to the adaptation component of the Covenant of Mayors.

The 2030 Agenda and its SDGs are an extension of Rio+20, as a way to implement its results. However, the 2030 Agenda goes further in integrating the three dimensions of sustainable development effectively with poverty eradication, peace, and security and human rights as well as governance and rule of law, aiming where possible to set clear targets and timelines.

Current situation

The main output in the policy area was the adoption of the 2030 Agenda and its SDGs in the United Nations in September 2015 where the EU played a central role. Linked to that are internal and external follow-up actions by the EU that are ongoing and are the main EU policy outputs under this sub-objective.

As regards the intent of the 9th priority objective and this sub-objective, the EU is on track to meeting these objectives. The adoption of the 2030 Agenda and its SDGs is a major achievement at global level. It provides drive, coherence and a framework to address effectively poverty eradication and sustainable development in an integrated manner. In this way the 2030 Agenda clearly helps in tackling international environment and climate related challenges.

The outcomes Rio +20 in several policy areas were valuable and Rio in particular provided further boost to addressing poverty eradication and sustainable development, including its environmental dimension, in an integrated manner. Equally important were the further intergovernmental processes, which Rio +20 instigated. They led to establishment of the UN Environment Assembly (UNEA), which is now the world's highest-level decision-making body on the environment. Rio also launched the processes for establishing the SDGs and the financing for sustainable development. The EU played a central positive role in all the Rio+20 follow-up processes.

The 2030 Agenda and its SDGs became the 'operationalisation' of the Rio +20 results, but they went much further in integrating the three dimensions of sustainable development effectively with poverty eradication, peace, security and human rights as well as governance and rule of law setting where possible clear targets and timelines. Furthermore, it brought together international commitments from other processes, such as those concerning biodiversity and climate-change allowing the SDGs to provide a universal, comprehensive, integrated global framework for addressing poverty and sustainable development. It can be said that the objectives and the requirements the 7th EAP set for the SDGs were met in full.

EU had a key role in the process for agreeing the 2030 Agenda. The Council could agree strong and clear EU positions based on Commission initiatives. Finding an EU agreement on all the issues of such a wide-ranging agenda as the 2030 Agenda was a challenge. Having the 7th EAP was very helpful for this as it provided a common agreed starting point within the EU, particularly on the Agenda's environmental aspects. This common starting point was not far from what was eventually needed for the SDG negotiations and together with Rio +20 and other agreed international commitments it helped to formulate a strong EU common position for the 2030 Agenda negotiations.

EU played a major role in the UN negotiations for the 2030 Agenda. The process leading to the adoption of the Agenda and the resulting SDGs meets the objectives set out in the actions for this sub-objective in full.

The EU is fully committed to implementing the SDGs. For its external policies the new European Consensus on Development (June 2017) is the EU's main response to the 2030 Agenda and it is structured accordingly. The overall EU external policy priorities as set out in the EU global strategy (2016) also include the SDGs and climate. Consequently, the 2030 Agenda has been integrated into the multilateral and bilateral international work of the EU, including in the field of environment.
Furthermore, the European Consensus confirms the EU's commitment to promote the green economy and highlights its importance in achieving key EU development objectives. Internally, the green economy is addressed most noticeably through EU's circular economy action plan, the circular economy being an essential component of the green economy.

Hence, the integration of Rio +20 outcomes - in practice through the 2030 Agenda – into the EU's external policies is well advanced. As for the internal policies[259] overall efforts are ongoing to integrate the SDGs into EU policies and initiatives with sustainable development as an essential guiding principle for all policies. Sustainability is being assured through the better regulation tools. Reflection work is ongoing developing a longer-term vision for SDG implementation in a post-2020 perspective.

These policies and measures have improved the coherence and effectiveness of the EU's contribution to global efforts to implement agreed commitments and to addressing the international environmental challenges.

As for the specific internal environmental policies and actions relevant for this, they are described elsewhere in this evaluation. Likewise they are the actions related to the Rio Conventions

The consistency between different internal policies and well as between the internal and external policies will have to be further monitored and assessed while the SDGs are being implemented.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

Having a jointly agreed common framework for sustainable development at global level (2030 Agenda) enables the EU's internal and external policies to be effective and coherent. Having these kinds of frameworks at global level can focus action and encourage cooperation among partners, as the objectives at global level are already agreed. This is already present to a certain extent in EU external action and development cooperation policy due to the Millennium Development Goals, which have now de facto been replaced by the

[259] COM(2016) 739.

much more comprehensive SDGs bringing in a wider array of issues and a strong environmental dimension. This transformation brought by the 2030 Agenda has been well reflected and integrated in the new European Consensus on Development and taken into account in the EU global strategy, which together provide an overall framework for EU external action and support for sustainable development.

Making a similar transformation in EU internal policies is much more complex and challenging as the EU already has policies in place in all the areas covered by the SDGs. However, as the SDGs strongly reflect the EU's own objectives, as partly defined in the 7th EAP, the starting point for EU implementation of the SDGs is strong and the level of divergence is not substantial . For implementing the 2030 Agenda the EU has adopted a two-phase approach with the immediate integration of the SDGs into EU policies and initiatives, with sustainable development as an essential guiding principle for all policies using the existing better regulation tools. This is followed by reflection work developing a longer-term vision for implementing the SDGs in a post-2020 perspective ***to be further developed in the Commission Reflection paper expected in early 2019***.

In environment, good progress has been made in adopting and adapting policies and taking action in support of the SDG implementation. These are described in more detail elsewhere in the document, but the recent EU flagship policies on environment certainly contribute strongly to the SDGs and follow an integrated approach with economic and social dimensions built in with the environmental dimension. Examples include action on key issues and priorities such as the circular economy; plastics; water, nature and biodiversity; sustainable finance, as well as some success stories in anchoring the environment into e.g. urban, energy and agriculture policies.

It is clear that despite a good starting position and solid progress in external and internal policies the EU needs to do more to implement the SDGs and to address the environmental challenges at all levels. The EU monitoring and reporting processes put in place for the 2030 Agenda will help to determine where action is needed most. Policy coherence is essential for achieving sustainable development as well as to create and profit from synergies and co-benefits and minimise the need for trade-offs. Policy coherence for sustainable development is required between the different internal policies of the EU as well as between its internal and external policies and actions in order to achieve sustainable development and to tackle the environmental challenges globally and in the EU as effectively as possible.

Furthermore, most environmental challenges can only be tackled effectively through combining internal and global action, such as that relating to the circular economy, climate change and biodiversity. Implementing the Rio+20 outcomes and the 2030 Agenda are important for demonstrating EU's firm commitment to and support for global governance, international rule-based order and multilateralism.

9.2 Cooperation with third countries

Sub-objectives:

- the Union is providing effective support to national, regional and international efforts to address environmental and climate-related challenges and to ensure sustainable development;

Actions:

- Engaging with partner countries in a more strategic way, for example by focusing cooperation with:

a) **strategic partners** on the promotion of best practice in domestic environment policy and

legislation and convergence in **multilateral environmental negotiations**;

b) **countries covered by the European Neighbourhood Policy** on gradual approximation with key Union environment and climate policy and legislation and on strengthening cooperation to address regional environmental and climate-related challenges;

c) **developing countries** to support their efforts to protect the environment, fight climate change and reduce natural disasters, and implement international environmental commitments as a contribution to poverty reduction and sustainable development;

- Promoting the further development and implementation of **emissions trading schemes** around the world and facilitating the linking of such systems;

Introduction

The EU's external policy involves working closely with third countries to tackle pressing environmental challenges at the:

- global level through initiatives such as the United Nations
- regional level through initiatives such as the Union for the Mediterranean or Eastern Partnership
- bilateral level through implementing the numerous cooperation agreements as well as the bilateral dialogues that we have with third countries.

This cooperation is supported by the policy driven external financial instruments.

Current situation

There has been an opening of new lines of cooperation with a number of third countries and regional organisations as well as strengthening or revitalising cooperation and dialogue with a number of others. Examples of this cooperation include:

- enabling candidate countries to the EU to transpose and implement the EU rules and regulations that they will need to apply so they can assume the responsibilities of EU membership;
- helping neighbouring countries of the EU to implement the environmental reforms to which their governments have committed;
- assisting third countries to develop and implement policies and regulations influenced by those of the EU;
- working with third countries through multilateral environmental agreements (MEAs) to ensure that they meet the most pressing global challenges.

The outputs from this cooperation take many forms. Examples include

- new policies put in place drawing upon EU experience (numerous examples under the European Neighbourhood Policy[260])
- better implementation of environmental regulations in third countries (for example, study visits by the Chinese judiciary have been made to the EU).
- new approaches developed at international level (such as natural capital accounting) helped by supportive EU interventions.

The drivers for relations with third countries and regions are three-fold:

[260] https://eeas.europa.eu/diplomatic-network/european-neighbourhood-policy-enp_en

- EU external policy (for example, Iran where broader political developments and strengthened foreign policy cooperation interests have led to enhanced environmental cooperation).
- International pillars of new internal policy initiatives where particular regions-countries require particular attention in order to be able to reach our own policy objectives (for example, marine litter cooperation with South East Asia).
- The EU's strategic priorities (strategic partners, neighbourhood, development cooperation mainstreaming).

Over recent years the EU's external policy has become increasingly structured and this has been associated with developing the environmental arm by mainstreaming environmental considerations into many policy and strategy documents. Recent examples include the EU global strategy, the EU's approach to resilience or the EU Asia connectivity strategy. Bilateral examples include the China and India country strategies; and the environment is now also embedded in the EUs Economic Diplomacy Agenda. Mainstreaming of environment into EU development cooperation has been improved through tools such as the Mainstreaming Guidelines, and the work of a dedicated mainstreaming facility. The 2015 circular economy package has also meant increasing linkages to the EU business community established in third countries or those businesses seeking to begin operating outside the EU, including through the new tool of the circular economy mission.

Summary

State of implementation of the policy area
☐ No progress
☐ Limited progress
☐ Some progress
☒ Substantial progress
☐ Fully implemented

The EU has made substantial progress towards meeting the 7th EAP objectives of a more strategic cooperation with partner countries and regions even though external policy developments continue to influence with whom and to which degree we cooperate significantly. It is of course unclear to what extent the 7th EAP has driven forward these international actions. However, through EU external policy, MEAs etc. there has been substantial progress towards meeting the 7th EAP objectives of a more strategic cooperation with partner countries and regions across all of the policy areas mentioned in the 7th EAP (strategic partners, European Neighbourhood countries, developing countries).

9.3 Engagement in international environment and climate change negotiations

Sub-objectives:

- The Union is providing effective support to national, regional and international efforts to address environmental and climate-related challenges and to ensure sustainable development;

Actions:

- Working towards a more effective UN structure for sustainable development, in particular its environmental dimension by:

a) further strengthening the **United Nations Environment Programme** (UNEP) in line with the

outcome of Rio + 20, building on the decision by the UN General Assembly to change the designation of the Governing Council of the UNEP to the **UN Environment Assembly of the UNEP,** while continuing to strive for an upgrade of the UNEP's status to that of a specialised Agency;

b) supporting efforts to enhance synergies between **multilateral environmental agreements**, in particular in the chemicals and waste cluster and the biodiversity cluster; and

c) contributing to ensuring a strong and authoritative voice for the environment in the work of the **High-Level Political Forum**;

- Strengthening the impact of various sources of funding, including taxation and domestic resource mobilisation, private investment, new partnerships and innovative financing sources, and creating options for using development aid to leverage those other sources of financing as part of a sustainable development financing strategy, as well as in the Union's own policies, including international commitments on climate and biodiversity finance;
- Engaging in existing and new multilateral environmental and other relevant processes, in a more consistent, proactive and effective way, including through the timely outreach to third countries and other stakeholders, with a view to ensuring that commitments for 2020 are met at Union level and promoted globally, and to agree on international action to be taken beyond 2020, and **ratifying and boosting efforts to implement all key multilateral environmental agreements well before 2020**. **Implementing the 10-year Framework of Programmes on Sustainable Consumption and Production**;

Introduction

Since the inception of the 7th EAP, the EU has provided effective support to national, regional and international efforts and processes aimed at addressing environmental and climate-related challenges and to ensuring sustainable development. This support has taken various forms and was provided in multiple settings and fora by tackling issues from various angles, as described below.

Current situation

UNEP's upgraded mandate, strongly advocated by the EU in the context of Rio+20, sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the UN system and serves as an authoritative advocate for global governance. Although the EU would have preferred it to have been strengthened more extensively, UNEP will become a stronger voice for the environment thanks to:

- the replacement of its Governing Council with the UN Environment Assembly (**UNEA),** which has universal membership;
- increased financial resources;
- its empowerment to lead efforts to formulate UN system-wide strategies on the environment; and
- strengthened stakeholder participation.

The UNEP reform with a preparatory process for UNEA based on proposals for decisions developed by the open-ended Committee of Permanent Representatives and a stronger role for the UNEA Member States provides an opportunity to work towards more focused and stronger outputs from UNEA in comparison to the former UNEP Governing Council. The EU has actively contributed to the shaping of the agendas and outcomes of UNEA in all three sessions that took place after its inception.

Apart from participating in the work of UNEA, the EU continued to work closely with UNEP. The 2014 Memorandum of Understanding between the Commission and UNEP provides for high level meetings (HLMs) aimed at regular policy dialogue and providing strategic guidance on collaboration. Thematic dialogues are also held regularly to feed/ complement the HLM discussions and cover more in-depth areas of cooperation. The last HLMs took place in December 2016 and June 2018. These regular meetings with UNEP enable the Commission to advance the EU international environmental agenda as issues are being discussed such as preparations for the High Level Political Forum on sustainable development, the UNEA, the Post-2020 biodiversity and chemicals/waste frameworks, and green/sustainable finance. The outcomes of the dialogues with UNEP also translate into concrete programmatic cooperation to promote EU international environmental objectives, including through voluntary contributions to multilateral environmental agreements.

When it comes to **multilateral environmental agreements (MEAs)**, the EU has to date ratified all key MEAs. The most recent achievements concern accession to the Convention on International Trade in Endangered Species of Wild Fauna and Flora as well as the ratification of the Minamata Convention, which ultimately enabled its entry into force. As part of its work on implementing numerous MEAs, the EU has also strived to increase **synergies** between them. In particular, the EU is funding a UNEP managed portal – InforMEA – which offers access to MEA treaty texts, decisions of its governing bodies, national reports and plans submitted under respective MEAs. The portal also hosts the largest glossary of international environmental law and provides free online courses targeted at the environmental community at large. In the context of strengthening synergies in the biodiversity cluster, the EU has also been encouraging the need to streamline reporting under biodiversity-related and Rio conventions by funding a special data reporting tool under InforMEA. It has been actively contributing to the development of global biodiversity indicators to monitor progress on the implementation of the global strategic plan for biodiversity 2011-2020 and SDGs 14 and 15 by funding the Biodiversity Indicator Partnership.

With regard to the synergies in chemical and waste cluster, they are being developed in particular between the Basel, Rotterdam and Stockholm Conventions and the Minamata Convention regarding mercury waste management, thanks especially to technical and operational cooperation being established. This is based in particular on the synergies between the Minamata provisions on waste and the Technical Guidelines for the environmentally sound management of wastes consisting of elemental mercury and wastes containing or contaminated with mercury, developed under Basel Convention.

There has also been significant progress on **funding for the international environmental agenda**. With the growth of the world's population, rapid urbanisation, and unsustainable production and consumption patterns leading to the depletion of natural resources, the need to invest in protecting the environment is very clear. Natural capital, including productive land, water resources, forests, fish stocks and biodiversity are the backbone of many countries' economies. The EU is therefore supporting partner countries' efforts to integrate environment, biodiversity and climate change into their policies, plans and budgets, notably through the UN Poverty and Environment Initiative and the Global Climate Change Alliance. Since 2016, in line with the new European Consensus on Development and the Paris Agreement, the EU has also strengthened its efforts to integrate environment, biodiversity and climate change more systematically into all EU financing instruments and programmes.

For instance, the External Investment Plan (EIP) was adopted in September 2017 to help boost investment in partner countries in Africa and the European Neighbourhood, with the aim of contributing to sustainable development. It will leverage public and private investment by covering part of the investment risk. The EIP focuses on a number of priority investment areas, including sustainable energy and sustainable connectivity, sustainable agriculture, sustainable cities and digitalisation for sustainable development. To this end, the EIP's investment arm, the European Fund for Sustainable Development, merges the existing blending platforms with a new guarantee.

The EU is also very active in the field of sustainable finance. Its action plan on sustainable finance 'Financing Sustainable Growth' will help to mobilise private capital and anchor sustainability considerations in financial markets, both in the EU and given that these markets are global outside the EU. In particular, the EU taxonomy, once adopted, would define which economic activities count as environmentally sustainable, regardless of where they take place. This will direct private capital flows towards sustainable activities both within and outside the EU.

On taxation and domestic resource mobilisation, the EU has increasingly promoted market-based instruments (MBIs) such as indirect taxation, targeted subsidies or tradable emission rights – to address resource scarcity and to promote a shift towards a sustainable economy. MBIs are flexible and cost-effective means to address environmental externalities and provide a revenue source.

Moreover, the EU participated in the G7/G20 process for the reform of environmental harmful subsidies, which aims to phase them out. Such an approach puts a price on environmental externalities and creates revenues to finance sustainable development.

The EU has consistently supported **environment-led processes** in the G7 and G20 agendas . In 2016 it backed the G7 German Presidency in launching the G7 Resource Efficiency Alliance and the G7 action plan to combat marine litter. The Alliance provides a common vision and a guide for future actions to deepen G7 efforts on resource efficiency and the 3Rs (reduce, reuse, recycle). These have been recently complemented by the Toyama Framework on Material Cycles[261] (adopted at the 2016 G7 Environment Ministers' meeting in Toyama, Japan) and the five-year Bologna roadmap (adopted at the 2017 G7 Environment Ministers' meeting in Bologna, Italy). The EU has co-organised a number of workshop in support of the Alliance, including on remanufacturing, refurbishment, repair and direct reuse in the circular economy (Brussels, February 2017, and Montreal, June 2018) and plastics (Brussels, March 2018). With the EU's active involvement, the G20 Resource Efficiency Dialogue and the G20 marine litter action plan were launched in 2017. The aim is to advance resource efficiency and ocean protection throughout the G20 members, representing 85 % of the world's GDP. The EU has championed sustainable consumption and production (SCP) in the run-up to the 2012 Rio+20 UN Sustainable Development Conference and has been instrumental in launching the 10-year framework of programmes on sustainable consumption and production (10YFP). The EU has provided crucial funding for the operation of the 10YFP Secretariat and supported the implementation of the 10YFP in synergy with the EU's Switch to Green programmes and more generally with the EU's development cooperation policy.

[261] https://www.mofa.go.jp/files/000159928.pdf

Most recently, the EU together with its Member States expressed support for the 'Global Pact for the Environment' initiative under the UN, which could lead to overarching treaty enshrining basic environmental principles beyond specific MEAs.

The Commission is currently seeking agreement for the EU become a member of the Global Plastic Platform 'Fighting Plastic Pollution: A Global Race to the Top' established by UNEP. The Platform is a partnership between UNEP, national governments and regional organisations to reduce plastic pollution. The Platform's objectives are consistent with those of the European strategy on plastics (COM(2018) 28), notably on the transition to a more circular economy, supporting innovative plastic product design, production, and consumption, and reducing plastic pollution around the world. The Council will have to agree to the EU becoming a member of the Platform.

Since July 2014 the EU and 16 other members of the World Trade Organization have been negotiating an environmental goods agreement to remove barriers, reduce or eliminate tariff and non-tariff barriers, and to trade in environmental or "green" goods that are crucial to protecting the environment and mitigating climate change. The negotiations have stalled with no progress reported in the last 2 years.

Summary

State of implementation of your policy area
☐ No progress
☐ Limited progress
☒ Some progress
☐ Substantial progress
☐ Fully implemented

The EU is actively participating in the UNEA's work, and working closely with UNEP. This is effective in advancing the EU international environmental agenda on issues such as sustainable development, biodiversity and chemicals/waste frameworks. This is complemented by the ratification of the key MEAs, and significant progress on funding for the international environmental agenda. The EU has also supported environment-led processes in the G7 and the G20 agendas as highlighted by its support for the Global Pact for the Environment mentioned earlier. There has therefore been some progress, highlighted by the development of a multilateral environmental agenda that is being translated into change on the ground.

9.4 Reducing the external impact of the EU consumption

Sub-objectives:

- The impact of consumption in the Union on the environment beyond the Union's borders is reduced.

Actions:

- Assessing the environmental impact, in a global context, of **Union consumption of food and non-food commodities** and, if appropriate, developing policy proposals to address the findings of such assessments, and considering the development of a Union action plan on **deforestation and forest degradation**;

- Ensuring that economic and social progress is achieved within the carrying capacity of the Earth, by increasing understanding **of planetary boundaries**, inter alia, in the development of the **post-2015 framework in order to secure human well-being and prosperity in the long-term.**

Introduction

The EU wants to lead by example and steer a global transition toward a sustainable future. A sound domestic sustainability agenda is pivotal to addressing international environment and climate-related challenges. In this respect, the EU circular economy action plan (CEAP), adopted in 2015, sets the groundwork for a number of actions aimed at creating a resource-efficient, circular and low-carbon economy both at home and abroad. Through the CEAP, the EU can significantly reduce the impact of its consumption on the environment with positive effects beyond its borders.

The EU action for sustainable consumption and production includes a number of policy tools and initiatives that enable people in the EU to thrive within the Earth's carrying capacity. While the CEAP's contribution is extensively covered in the policy area assessment on SCP, this policy area assessment profiles the EU's work on **consumption of food**[262], on **deforestation** and on **increasing understanding of planetary boundaries**. In addition, this assessment also profiles the EU efforts to harness globalisation to promote the circular economy and SCP practices at international level.

Current situation

Addressing international environment and climate-related challenges by reducing the external impact of the EU's consumption will imply a significant **reduction of food waste** and a shift toward healthy and nutritious diets.

The Roadmap to a Resource Efficient Europe (2011)[263] includes a theme *'Addressing Food'* in which it is noted that the average European citizen wastes 180 kg of food per year, much of which is food that is still suitable for consumption. The Roadmap notes that 'a combined effort by farmers, the food industry, retailers and consumers through […] sustainable food choices (in line with WHO recommendations on the amount of animal proteins, including meat and dairy products consumed per person) and reduced food waste can contribute to improving resource efficiency and food security at a global level'.

The EU revised waste legislation, adopted in May 2018, requires Member States to reduce food waste at each stage of the food supply chain, and to monitor and report annually on food waste levels. The Directive also requires the Commission to adopt legislation on food waste measurement by the end of March 2019. The new measurement obligations will generate consistent data on food waste levels throughout the EU and provide a major contribution towards the SDG 12.3 targets.

Another important aspect regarding EU consumption and strongly connected with food production and consumption is **deforestation and forest degradation**[264]**.** According to the

[262] This policy area assessment is limited to illustrate the EU work on food consumption. The non-food commodities are addressed under Sustainable Consumption and Production.
[263] COM(2011) 571.
[264] The UN Food and Agriculture Organisation (FAO) explains that deforestation is the direct human-induced conversion of forested land to non-forested land, including areas of forest converted to agriculture, pasture,

estimates from the UN's Food and Agriculture Organisation, around 7.6 million hectares of forests were lost every year at the global level between 2010 and 2015. The causes of deforestation and forest degradation depend on the context specific and they vary across regions and countries. A broad range of EU initiatives addresses these causes:

- The **EU FLEGT action plan**, designed to tackle illegal logging and strengthen forest governance in producer countries, including the EU Timber Regulation and FLEGT Voluntary Partnership Agreements between the EU and timber-producing countries.
- **EU action plan against wildlife trafficking** is designed to address wildlife trafficking within the EU.
- EU activities to combat **illegal, unregulated and unreported fishing**. As with combatting wildlife trafficking these activities contribute to improving governance, law and order, livelihoods and security.
- Biodiversity development cooperation: the EU is one of the world's largest contributors to biodiversity related development assistance outside Europe. As such it is contributing significantly to double biodiversity-related financing in line with international commitments.
- **REDD+ activities**, which aim to reduce greenhouse gas emissions from deforestation and forest degradation and improve the sustainable management of forests and the conservation and management of forest stocks.
- **EU renewable energy policy** specifies sustainability criteria that liquid biofuel feedstocks must meet to qualify for financial and regulatory support (this will be expanded to all bioenergy uses under the post-2020 framework).
- Other policy areas relevant to **deforestation** include **Green Public Procurement**, the **Circular Economy Package**, the **EU Forest Strategy** (all in the area of environment), trade policies (such as free trade agreements and Aid for Trade)[265].

The EU has an objective to step up action against tropical deforestation and forest degradation by developing a more coherent and comprehensive approach to the problem. In 2018, the Commission announced an initiative for an integrated EU approach to combat deforestation, protect forests and promote sustainable supply chains[266].

The EU supports forest and land restoration (e.g. through the African-led Great Green Wall initiative), as well as the conservation of essential ecosystem services by increasing protected areas and strengthening their sustainable management.

By reducing its consumption on the environment, the EU can ensure a sustainable economic and social development that respects our **planetary boundaries**. The concept of planetary boundaries was first introduced in 2009 by a group of scientists and researches lead by Professor Johan Rockström[267] from the Stockholm Resilience Centre. The concept sets *nine planetary boundaries within which humanity can continue to develop and thrive for*

---

water reservoirs and urban areas. Forest degradation is the decline of the capacity of a forest to supply products and services. Human activities that drive forest degradation include overgrazing, demand for fuel wood, charcoal, excessive logging, overexploitation of forest fauna and flora, and human-induced fires, whilst natural causes of degradation include insect pests, storm damage and natural fires.

[265] Feasibility study on options to step up EU action against deforestation.

[266] https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-6516782_en

[267] Professor Johan Rockström is the former Director of the Stockholm Resilience Centre and in-coming Director of the Potsdam Institute for Climate Impact Research.

generations to come[268]. The nine planetary boundaries include: 1) stratospheric ozone depletion, 2) loss of biosphere integrity (biodiversity loss and extinctions), 3) chemical pollution and the release of novel entities, 4) climate change, 5) ocean acidification, 6) freshwater consumption and the global hydrological cycle, 7) land systems change, 8) nitrogen and phosphorus flows to the biosphere and oceans; and 9) atmospheric aerosol loading. Through their research, scientists have tried to define what is a safe operating space for humanity. Transgressing one or more planetary boundaries may lead to *non-linear, abrupt environmental change within continental to planetary-scale systems*[269].

Despite the growing recognition of the planetary boundaries framework as a guiding principle for global sustainable development, putting the concept of planetary boundaries into practice at the regional, national and local level remains a challenge. Integrating the planetary boundaries framework in EU policy-making and measuring Europe's performance against these biophysical limits require a better understanding of not only the concept of planetary boundaries itself, but also how to translate the global perspective at the national and local level, while ensuring consistency between governance systems, policy areas and sectors.

In July 2018, the Stockholm Resilience Centre published a report for the European Environment Agency "Operationalising the concept of a safe operating space at the EU level – first steps and explorations"[270]. This report and the ongoing EU work under the Within Limits of the Planet (WiLoP) project' project help EU policy-makers better understand the concept of planetary boundaries for EU policy making. The report's results show t the following

- 'Based on equal-per capita allocation of the global safe operating space, the EU does not appear to be 'living within the limits of our planet' for most of the boundaries analysed.
- From a consumption-based (footprint) perspective, Europe's per-capita contribution to the different planetary boundaries is significantly higher than the global average.
- Regarding past trends, decreases in Europe's territorial pressures are mostly outweighed by increasing environmental pressures in other regions, thereby externalising the EU's environmental footprint. As a result, Europe's total consumption-based environmental performance does not show improvement as regards most planetary boundaries.
- The social and ecological impacts of pressures on planetary boundaries can be more severe in the locations to which the pressures are externalised, compared to the same pressure exerted within Europe.
- Data and information limitations present challenges, but the initial planetary boundaries downscaling and benchmarking has been possible using available data, and is an informative exercise for both policy implementation and future research.'

In line with the policy framework provided by the planetary boundaries, the EU is a strong advocate for a **global transition toward a circular economy**. However, it will not be possible for the EU to attain a circular economy in isolation. A global transition to the circular economy model is in the EU's interest, as it is a major economic block, a leading

[268] https://www.stockholmresilience.org/research/planetary-boundaries.html
[269]Rockström et al. (2009), ".Planetary Boundaries: Exploring the Safe Operating Space for Humanity": https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1063&context=iss_pub
[270]https://www.stockholmresilience.org/publications/artiklar/2018-07-03-operationalizing-the-concept-of-a-safe-operating-space-at-the-eu-level---first-steps-and-explorations.html

exporter and importer of goods and services, and deeply embedded in global value chains. For developing countries, improving the environmental sustainability of their economies is at least as important as for the developed ones, considering that the costs of further environmental degradation are likely to lock them further into poverty. On the other hand, sustainable practices can deliver multiple economic benefits, such as improved competitiveness and market penetration. The EU circular economy action plan recognises the importance of the global dimension and states that the Commission will co-operate closely with international organisations and other interested partners as part of the global efforts to implement the 2030 Agenda and to attain the SDGs. This resonates in the new European Consensus on Development, which states: "the EU and its Member States will promote resource efficiency and sustainable consumption and production, including the sustainable management of chemicals and waste, with a view to decoupling economic growth from environmental degradation and enabling the transition to a circular economy policy".

Summary

State of implementation of the policy area
☐ No progress
☒ Limited progress
☐ Some progress
☐ Substantial progress
☐ Fully implemented

The EU has made *limited progress* in reducing the impact of consumption on the environment outside the EU. Considerable progress has been made in assessing and deepening the understanding of the EU's environmental impacts at home and abroad and the circular economy action plan greatly contributes to address these externalities. The 7th EAP officially recognises the importance of the planetary boundaries framework and stresses the key role that the EU should play in lowering pressure on the global natural resource base. This triggered greater action by the EU at international level. However challenges persists.

The EU strongly believes in circularity as the gateway to the future envisaged by the 2030 Agenda and the Paris Agreement. However, the EU is still missing a coherent international approach on how to lead and support this transition. To date there is no clear understanding in the EU of how the global uptake of circular approaches should be accomplished, which actors to engage with and what instruments to deploy. In this light, more efforts should be dedicated to fill this knowledge and policy gap. An orderly global transition to a low-carbon, resource efficient and circular economy should build on a sound knowledge-based, dialogue ongoing with third countries and an integrated approach in line with the 2030 Agenda and the Paris Agreement.

In addition to this, it is worth stressing that transitioning to the circular economy model will require a profound shift in individuals' mind-sets. The sustainable and circular management of resources in developed countries may need a reduction in consumption ("lowering the ceiling") so that economic growth is decoupled from resource use, as indicated in the Commission's reflection paper Harnessing Globalisation[271]. This needs to be recognised as a

[271] COM(2017) 240.

logical consequence of a finite natural resource base and planetary boundaries. Behavioural change and sufficiency policies should be part of sustainable consumption and production practices.

Annex 7 – coherence between environmental policy and Juncker priorities and SDGs

The different strategies

Since the 7th EAP was adopted, some key policy agendas have been developed. Within the EU, the President of the European Commission, Jean-Claude Juncker, in 2014 profiled 10 Commission priorities for 2015-2019 as his 'agenda for jobs, growth, fairness and democratic change'. At international level, under the aegis of the United Nations (UN), Heads of State and Government and High Representatives in September 2015 adopted the 2030 Agenda for Sustainable Development (UN 2015), a universal programme for action consisting of 17 Sustainable Development Goals (SDGs) and 169 targets.

The 7th EAP is thus flanked by the policy guidance offered by the 10 Juncker priorities and the SDGs. The three policy agendas have some overlap and can be expected to interact, both in synergetic and in conflicting ways ('policy interaction'); the latter renders 'policy coherence' a challenge. While in some instances it is easy to recognise shared objectives and links between these three policy frameworks (e.g. the low-carbon future envisaged by the 7th EAP, SDG 7 on clean energy and the Juncker priority to make energy more secure, affordable and sustainable), in other cases further reflection is needed to identify synergies, complementarities and trade-offs. Taking into account the 7th EAP's long-term vision (until 2050), it is important for current and future environmental and climate policy to assess how the EAP could contribute to and scale up the objectives of the SDGs and the Juncker priorities beyond 2030.

The **Juncker priorities** include the following:

- jobs, growth and investment via a digital single market;
- a resilient energy union with a forward-looking climate change policy;
- a deeper and fairer internal market with a strengthened industrial base;
- a deeper and fairer economic and monetary union (EMU);
- A balanced and progressive trade policy to harness globalisation;
- an area of justice and fundamental rights based on mutual trust;
- a new policy on migration;
- strengthening Europe's role as a global actor; and
- ensuring the EU is a union of democratic change.

The **2030 Agenda for Sustainable Development** is a set of 17 SDGs as well as 169 related targets to be achieved between 2015 and 2030. The broad and integrated set of goals ranges from the eradication of poverty and inequality to the protection of the environment and climate and the sustainable use of resources. The listed goals and targets are to be implemented on global, regional, national and local levels by governments together with the private sector and civil society.

The core questions for any such analysis include:

- Are there overlaps and areas of coherence (including synergy) or incoherence between the 7th EAP and the Juncker priorities (i.e. are they complementary or in conflict)?
- Are the 7th EAP priority objectives reflected in the SDGs (and vice versa)? Are there overlaps and/or examples of coherence or incoherence between the 7th EAP and the SDGs (i.e. are they complementary or in conflict)?

Table Y: Potential interactions between the 7th EAP and the Juncker priorities

EAP priority objectives / **Juncker priorities**	**1.** to **protect, conserve and enhance the Union's natural capital**	**2.** to turn the Union into a **resource-efficient, green, and competitive low-carbon economy**	**3.** to safeguard the Union's citizens from **environment-related pressures and risks to health and well-being**	**4.** to maximise the benefits of the Union's environment legislation by **improving implementation**	**5.** to improve the **knowledge and evidence base** for Union environment policy	**6.** to secure **investment for environment and climate policy** and address **environmental externalities**	**7.** to improve **environmental integration** and **policy coherence**	**8.** to enhance the sustainability of the **Union's cities**	**9.** to increase the Union's effectiveness in **addressing international environmental and climate-related challenges**
1. A new boost for **jobs, growth and investment**	x	x	x	x	x	x	x	x	0
2. A connected **digital single market**	x	x	x	0	0	0	0	0	0
3. A resilient **energy union** with a forward-looking **climate change policy**	x	x	x	0	0	x	0	x	x
4. A deeper and fairer **internal market** with a strengthened **industrial base**	x	x	x	0	0	0	0	0	0
5. A deeper and fairer **economic and monetary union** (EMU)	x	x	x	0	0	0	0	0	0
6. A balanced and progressive **trade policy** to harness globalisation	x	x	x	x	0	0	0	0	0
7. An area of **justice and fundamental**	x	0	x	x	0	0	0	x	0

rights based on mutual trust									
8. Towards a new policy on **migration**	0	0	0	0	0	0	0	0	0
9. Europe as a stronger **global actor**	0	0	0	0	0	0	x	0	x
10. A union of **democratic change**	x	x	x	x	0	0	0	0	0

Source: own.

Table 1: Potential interactions between the 7th EAP and the SDGs

EAP priority objectives / **SDGs**	**1.** to **protect, conserve and enhance the Union's natural capital**	**2.** to turn the Union into a **resource-efficient, green, and competitive low-carbon economy**	**3.** to safeguard the Union's citizens from **environment-related pressures and risks to health and well-being**	**4.** to maximise the benefits of the Union's environment legislation by **improving implementation**	**5.** to improve the **knowledge and evidence base** for Union environment policy	**6.** to secure **investment for environment and climate policy** and address **environmental externalities**	**7.** to improve **environmental integration** and **policy coherence**	**8.** to enhance the sustainability of the **Union's cities**	**9.** to increase the Union's effectiveness in **addressing international environmental and climate-related challenges**
1. End **poverty** in all its forms everywhere	x	x	x	x	x	x	x	x	x
2. End **hunger,** achieve **food security** and improved nutrition and promote **sustainable agriculture**	x	x	0	0	0	0	0	x	0
3. Ensure healthy lives and promote **well-being for all** at all ages	x	x	x	0	0	0	0	x	0
4. Ensure inclusive and equitable quality **education** and promote lifelong learning opportunities for all	x	x	x	x	x	x	x	x	x
5. Achieve **gender equality** and empower all women and girls	x	x	x	x	x	x	x	x	x
6. Ensure availability and sustainable	x	x	x	0	0	0	0	x	0

management of **water and sanitation** for all									
7. Ensure access to affordable, reliable, sustainable and modern **energy for all**	x	x	x	0	0	0	0	x	x

EAP priority objectives / SDGs	**1.** to **protect, conserve and enhance the Union's natural capital**	**2.** to turn the Union into a **resource-efficient, green, and competitive low-carbon economy**	**3.** to safeguard the Union's citizens from **environment-related pressures and risks to health and well-being**	**4.** to maximise the benefits of the Union's environment legislation by **improving implementation**	**5.** to improve the **know-ledge and evidence base** for Union environment policy	**6.** to secure **investment for environment and climate policy** and address **environmental externalities**	**7.** to improve **environmental integration** and **policy coherence**	**8.** to enhance the sustainability of the **Union's cities**	**9.** to increase the Union's effectiveness in **addressing international environmental and climate-related challenges**
8. Promote **sustained**, **inclusive and sustainable economic growth**, full and productive employment and decent work for all	x	x	x	0	0	0	0	x	0
9. Build resilient **infrastructure**, promote inclusive and **sustainable industrialization** and foster **innovation**	x	x	x	0	x	0	0	x	0
10. Reduce **inequality** within and among countries	x	x	x	0	0	0	0	0	0
11. Make **cities and human settlements** inclusive, safe, resilient and sustainable	x	x	x	0	0	0	x	x	0
12. Ensure **sustainable consumption and production patterns**	x	x	x	0	0	x	0	x	0

13. Take urgent action to combat **climate change and its impacts**	x	x	x	0	0	x	x	x	0
14. Conserve and sustainably use the **oceans, seas and marine resources** for sustainable development	x	x	x	0	x	x	0	x	0

EAP priority objectives / SDGs	**1.** to **protect, conserve and enhance the Union's natural capital**	**2.** to turn the Union into a **resource-efficient, green, and competitive low-carbon economy**	**3.** to safeguard the Union's citizens from **environment-related pressures and risks to health and well-being**	**4.** to maximise the benefits of the Union's environment legislation by **improving implementation**	**5.** to improve the **know-ledge and evidence base** for Union environment policy	**6.** to secure **investment for environment and climate policy** and address **environmental externalities**	**7.** to improve **environmental integration** and **policy coherence**	**8.** to enhance the sustainability of the **Union's cities**	**9.** to increase the Union's effectiveness in **addressing international environmental and climate-related challenges**
15. Protect, restore and promote sustainable use of **terrestrial ecosystems,** sustainably manage **forests,** combat **desertification,** and halt and reverse **land degradation** and halt **biodiversity loss**	x	x	x	0	0	x	x	x	x
16. Promote peaceful & inclusive societies for sustainable development, provide **access to justice** for all, build effective, **accountable & inclusive institutions** at all levels	x	x	x	x	0	0	0	x	0
17. Strengthen the means of implementation and revitalize the **Global Partnership for Sustainable Development**	0	0	0	0	x	x	x	0	x

Relations between these three policy agendas can take the form of 'overlaps' (full or partial identity of objectives), 'coherence' (no negative interaction or even positive interaction – i.e. synergy – between objectives) and 'incoherence' (trade-offs between objectives). The analysis shows the following.

Overlaps

There are a limited number of overlaps between the 7th EAP and the Juncker priorities. They relate mainly to a resource-efficient, green, and competitive low-carbon economy (objective 2 of the 7th EAP) — which has been highly promoted by the high placement of the circular economy on this Commission's agenda — and to climate action.
Furthermore, almost all EAP priority objectives are reflected in the SDGs. The notable exception is EAP 9 ("To increase the Union's effectiveness in addressing international environmental and climate-related challenges").

On the other hand, objectives linked to natural capital have not been strongly reflected in the Juncker priorities (which were adopted prior to the 7th EAP).

Policy overlaps support the implementation of objectives. This is because an objective is legitimised in different contexts and its achievement possibly driven forward by different responsible bodies or individuals. Where there is no supportive policy-overlap with other agendas (see bullet points above), extra attention needs to be paid to the implementation of the respective objectives.

Coherence & incoherence

Two objectives can be both coherent and incoherent with each other, depending on the implementation pathway. For instance, whether SDG 2.3 on doubling the agricultural productivity of small-scale farmers is consistent with EAP 1 on protecting the Union's natural capital depends on the specific agricultural practices employed. Another example is the interaction between Juncker priority 1 and the EAP, which may be both negative (due to environmental impacts of economic growth) and positive (through investments in 'green' projects and sectors under Juncker's "Investment Plan for Europe").

As regards the *direction of policy interaction*, the Juncker priorities are more likely to affect the implementation of the 7th EAP rather than the other way around. The major exception is the growth and job potential resulting from environmental policies, which may contribute to the achievement of Juncker priority 1.

As regards the *results of policy interaction*, there are many instances of coherence and even synergies between the three policy agendas. There seems to be more synergy than incoherence.

Conclusions

Very generally, any environmental action programme should be aware of synergies and inconsistencies with the most relevant 'competing' policy agendas. It should attempt to reduce potential inconsistency and strengthen potential synergies with these.

Clearly, the 7th EAP helps to deliver the 2030 Agenda. Also, parts of the 7th EAP contribute directly to the Juncker priorities (circular economy to growth and jobs). The main concern seems to be that economic growth will be bad for the environment, but in fact the 7th EAP actions should mitigate this risk, whilst supporting growth and jobs.

Annex 8 - Analysis of Member State environmental action programmes

The table below lists a number of the national environmental strategies and national SDG strategies that are in place in EU Member States. The majority of countries also have in place an overarching document that pulls together and explains all of the different strands of environmental. Most of the countries also have a number of sectoral plans, especially in the field of climate policy; however, due to the large number of such policy plans, this table is limited to the overarching environmental and SDG strategies.

At least 15 EU Member States have in place or are currently preparing an overarching national environmental strategy. The list could be expanded; for example, Denmark, as a member of the Nordic Council, helped to develop the Nordic Environmental Action Plan 2013-2018 but has not developed its own national strategy. Moreover, since 2012 at least 15 EU Member States have adopted or revised existing national SDG strategies or are currently in the process of drafting such documents.

Most of the strategies and action plans listed below do not make any direct reference to the 7th EAP. However, national environmental strategies may have been influenced by EU environmental policy. For instance, the new National environmental policy (PEP) in Poland will link the 2030 Agenda for Sustainable Development, the Polish strategy for responsible development and the 7th EAP. The structure of the draft PEP evidently corresponds to the three thematic priority objectives and the enabling framework of the 7th EAP.

EU Member State	Environment strategy	National SDG strategy /action plan (adopted or revised after 2012)
Austria	**National environmental plan**[272] (time frame: 1996-2025)	
Belgium		**National sustainable development strategy (NSDS)** (2014, adjusted in 2016)
Bulgaria	*Draft National Environmental Strategy 2009-2018* (not adopted)	**National development programme Bulgaria 2020** (adopted in 2016)[273]
Cyprus		
Czech Republic	**The State environmental policy of the Czech Republic 2012-2020**[274]	**Czech Republic 2030** (adopted in 2017)[275]
Germany		**National sustainable development strategy** (updated in 2016)[276]
Denmark	**Nordic environmental action plan 2013–2018** (Nordic Council of Ministers)[277]	**Action plan for Denmark's follow up on the Sustainable Development Goals** (adopted in 2017)

[272] https://www.parlament.gv.at/PAKT/VHG/XX/I/I_00637/index.shtml
[273] https://www.eufunds.bg/archive/documents/1357828564.pdf
[274] https://www.mzp.cz/en/state_environmental_policy
[275] https://www.vlada.cz/assets/ppov/udrzitelny-rozvoj/projekt-OPZ/Strategic_Framework_CZ2030.pdf
[276] https://archiv.bundesregierung.de/archiv-de/meta/startseite/germany-s-national-sustainable-development-strategy-276504
[277] http://norden.diva-portal.org/smash/get/diva2:701437/FULLTEXT01.pdf

Estonia	**Estonian environmental strategy 2030** (approved in 2007)[278]	
Netherlands	*National Environmental Policy Plan (NEPP)* (first adopted in 1989)	
Spain		**The action plan for implementing the 2030 Agenda in Spain** (approved in 2018)
Finland	**Strategy 2030 - A better environment for future generations** (adopted in 2018)[279]	
France	**3rd national plan for environment and health**[280]	
Greece	**Development strategy guidelines** in the policy areas which fall under the responsibility of the Ministry of Environment, Energy and Climate Change	
Croatia	Currently in preparation: **New action plan for environmental protection** (it will integrate environmental aspects of global SDGs)	
Hungary	**Fifth national environmental protection programme setting out the environmental policy aims and relevant measures for the period 2015-2020**	**National sustainable development strategy framework (2012-2024)**[281]
Ireland		**'Our Sustainable Future' the framework for sustainable development in Ireland** (launched in 2012)[282]
Italy		*Environment action strategy for sustainable development in Italy*[283] (adopted in 2002)
Lithuania	**National environmental protection strategy 2015**	
Luxemburg		**3rd national plan for sustainable development 2018** [284]
Latvia	**Environmental policy strategy for 2014-2020** (2015)	**Latvia 2030 - sustainable development strategy of Latvia** (2010)
Malta	**National environment policy (NEP) 2012-2020**[285]	Currently in preparation: **Vision 2050**

[278] https://www.envir.ee/sites/default/files/keskkonnastrateegia_inglisek.pdf
[279] http://www.ym.fi/en-US/The_Ministry/Goals_and_results/Strategy_2030/Strategy_2030__A_better_environment_for_(46921)
[280] https://www.ecologique-solidaire.gouv.fr/plan-national-sante-environnement-et-plans-regionaux-sante-environnement
[281] http://sdgtoolkit.org/tool/national-framework-strategy-on-sustainable-development-of-hungary/
[282] https://www.dccae.gov.ie/en-ie/environment/topics/sustainable-development/our-sustainable-future/Pages/default.aspx
[283] http://www.minambiente.it/pagina/strategia-dazione-ambientale-lo-sviluppo-sostenibile-italia
[284] https://indr.lu/presentation-de-lavant-projet-du-pndd/
[285] https://msdec.gov.mt/en/decc/Pages/environment/natenvpol.aspx

Poland	Currently in preparation: **National environmental policy (PEP)**	**Strategy for responsible development** (published in 2017)
Portugal		
Romania		Currently under revision: **National strategy for sustainable development** (issued in 2008)
Sweden	**The environmental objectives system** (adopted in 1999 and which is continuously developed) **Nordic environmental action plan 2013-2018** (Nordic Council of Ministers)[286]	**Action Plan for the 2030 Agenda**[287] (key political measures for the years 2018-2020)
Slovenia	Currently in preparation: **National environment protection action programme 2030**	**Slovenian development strategy 2030** (adopted in 2017)[288]
Slovakia	Currently in preparation: **Environmental policy strategy by 2030 (Envirostrategy 2030)**	
UK	An environment plan exists for each of England, Scotland and Wales. England: **A green future: our 25 year plan to improve the environment (2018)**[289]	

[286] http://norden.diva-portal.org/smash/get/diva2:701437/FULLTEXT01.pdf
[287] https://www.government.se/press-releases/2018/06/the-government-adopts-swedens-action-plan-for-the-2030-agenda/
[288] http://www.vlada.si/en/projects/slovenian_development_strategy_2030/
[289]Sehttps://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

Annex 9 –Development of EAPs over time

Since the early 1970s, the EAPs have guided future environmental legislation in a coherent manner by providing loose objectives to tackle vertical and sectoral ecological problems. The first EAP (1973-1976) was a reaction to increasingly noticeable ecological damage which had to be detected and explained scientifically. Over time the EAPs have developed: for example, the first four programmes relied almost exclusively on legislative measures, whilst the resolution on the 5th EAP proposed a mix of instruments that would acknowledge the shared responsibility for environmental protection of everyone in society. Instruments included:

- legislative measures;
- market-based instruments;
- cross-cutting measures (improving information and environmental statistics, scientific research and technological development, improving sectoral and spatial planning, public information, professional training); and
- financial support mechanisms (LIFE programme, Structural Funds, Cohesion Fund, EIB loans).

The table below provides a summary of the objectives, key areas, structure and key features of the 1st to the 5th EAP.

Table EAPs summary table

EAP	Contextual drivers	Objective	Areas / Specific sectors	Key features	Form & structure
1st EAP (1973-1976)	Perceptible ecological damage; Stockholm Conference (1992)	To improve the setting and quality of life, and the surroundings and living conditions of the peoples of the Community	- Water - drinking water quality, waste prevention - Air - air quality	- Harmonisation of activities and standards across the EU - Minimum standards to limit pollution - Mainly legislative measures	- Resolution
2nd EAP (1977-1981)	Perceptible ecological damage; Stockholm Conference (1992)	To improve the setting and quality of life, and the surroundings and living conditions of the peoples of the Community	- Water - drinking water quality, waste prevention - Air - air quality	- Harmonisation of activities and standards across the EU - Minimum standards to limit pollution - Mainly legislative measures	- Resolution
3rd EAP (1982-1986)	Increasing importance of prevention (over mitigation); Lack of integration across policy areas	The protection of human health, the long-term availability of all the resources which determine the quality of life (quality & quantity) namely, water, air, space, climate, raw materials, the built environment, and the natural and cultural heritage, as well as the maintenance and	- Fresh water and sea water - Atmospheric pollution - Noise - Chemicals - Waste - Technology and pollution	- Preventative principle - Resource efficiency - Environmental Impact Assessments - Environmental standards - Mainly legislative measures	- Resolution

EAP	Contextual drivers	Objective	Areas / Specific sectors	Key features	Form & structure
		restoration of the natural environment.			
4th EAP (1987-1992)	Lack of integration across all policy areas; Insufficient enforcement/effective implementation by Member States and lack of harmonisation between Member States (threatening the functioning of the common market)	The protection of human health, the long-term availability of all the resources which determine the quality of life (quality & quantity) namely, water, air, space, climate, raw materials, the built environment, and the natural and cultural heritage, as well as the maintenance and restoration of the natural environment.	- Fresh water and sea water - Atmospheric pollution - Noise - Chemicals - Waste - Technology and pollution	- The importance of safeguarding the Internal Market - Effective implementation of legislation - Mainstreaming of environmental policy across all other policy areas - Mainly legislative measures	- Resolution - Sectoral approach
5th EAP (1993-2000)	Lack of integration across all policy areas; Sustainable development; Perceived need for shared responsibility of various actors in society	Sustainable development – Improved and continued welfare of citizens whilst ensuring the long-term success of the Internal Market through adequate industrial, energy, regional development, agriculture, transport policies that deliver goods.	- 5 target sectors (industry, energy, transport, agriculture and tourism) - 7 themes (climate change, acidification/air quality, urban environment, coastal zones, waste management, water resources, and biodiversity).	- Sustainable development - Shared responsibility - Mix of instruments: Legislative, Market-based, horizontal measures, financial support mechanisms	- Resolution - First time an EAP had a thematic structure

Lessons from the 6th EAP

The key reference on the lessons learnt from the 6th EAP is the final assessment[290] of the programme. This consisted of an external assessment which drew from the EEA report 'The European Environment - State and Outlook 2010' (SOER 2010), which provided an overview of the progress made on attaining EU environmental objectives. The assessment also included opinions collected via a public stakeholder consultation on the 6th EAP.

According to the final assessment, the 6th EAP was helpful in that it provided a comprehensive overarching framework for environmental policy. The co-decision process gave the 6th EAP more legitimacy than previous programmes as stakeholders felt a wider sense of ownership of subsequent policy proposals. However, although the large majority of actions set out in the programme had been - or were in the process of being - completed by the time the evaluation was carried out, objectives across the programme's priority areas were not always met.

[290] COM(2011) 531

The final assessment also identified a number of factors that led to objectives not being achieved. These factors included:

- the level of ambition in achieving objectives (e.g. too ambitious regarding nature conservation, not ambitious enough regarding climate);
- external factors such as the lack of commitment of Member States; and
- the inadequate implementation and enforcement of EU environmental legislation.

Moreover, according to the final assessment, timing had been an issue in two ways. While the 6th EAP influenced the 2007-2013 MFF, the timing of its adoption in 2002 was too late for the MFF period of 2000-2007. The 10-year timeframe of the 6th EAP (2002 – 2012) was also considered as not always being appropriate.

On the thematic strategies, which became a central governance mechanism of the 6th EAP, views on the external assessment[291] range from mixed to positive. Other than the issue of having absorbed considerable financial and human resources, the strategies were overall considered to have contributed in several ways.

From the 6th to the 7th EAP: New challenges

The 6th EAP final assessment shed light on the challenges posed to the 7th EAP based on the shortfalls in the 6th EAP and new developments. Sustainable growth required the transformation to a green, resource-efficient, competitive and low-carbon economy, which would reduce EU dependency on raw materials and natural resources. The importance of product design in relation to products' environmental impact called for more eco-design. Consumer behaviour was regarded as a field for further research. The 7th EAP had to (i) build a case for action and justify the costs of inaction by increasing the knowledge base including data and statistics, (ii) better understand the drivers and barriers of environmental policy, and (iii) to develop reliable indicators to measure progress. The EU's growing external footprint also called for the Union to play a greater role in shaping international policy.

The prior impact assessment of the 7th EAP highlighted four underlying problems that were hindering the achievement of the key environmental objectives:

1) inadequate implementation of and gaps in the existing environment policy;

2) lack of coherence in addressing increasingly interlinked challenges across inter-related policy fields;

3) problems related to incentives for investment in environment-related measures; and

4) insufficiently coordinated data and information on the environment and gaps in the knowledge base.

Conclusions

The main source of inspiration for the 7th EAP were the lessons learnt from the 6th EAP. These can be summarised as the need for further effort in enforcing implementation,

[291] Ecologic (2011), Final Report for the Assessment of the 6th Environment Action Programme: https://www.ecologic.eu/sites/files/attachments/Projects/2010/ecologic_6eap_report.pdf

integrating environmental objectives into other policy areas and engaging stakeholders and the public in environmental action.

Overall, the programme moved from supporting a few individual environmental activities (1st and 2nd EAPs) to a more comprehensive concept of environmental policy (5th, 6th and 7th EAPs). This widening of the scope of action also brought about changes in the structure of the programmes. While the first four EAPs were structured around specific objectives, the EAPs that followed introduced new concepts such as priority sectors and priority themes (5th EAP), and thematic strategies (6th EAP). This enabled a wider area of action to be scoped out across a wider group of topics. From the 5th EAP onwards, also, the programmes were given a name which represented their objectives.

Over time, the EAP developed a more long-term focus and the duration of the programmes changed – they became longer and the timeframe was eventually adjusted to match the period of the MFF. This approach was recommended in subsequent evaluations of the EAP, which for reasons related to funding, considered the longer duration (in line with the MFF) an advantage. Other than that, it can be argued that the EU budget did not influence the EAPs, probably because the EAP does not propose concrete policy measures. The policy instruments that the EAP suggests be used to achieve environmental objectives also evolved. Until the 5th EAP these policies were purely regulatory measures. Afterwards, market related (fiscal) instruments, such as green taxes and eco-labels, were introduced.

The process of drafting the EAPs also became more sophisticated, cooperative and better informed – partly resulting from the EU-wide expansion in the use of evaluations. The 6th EAP systematically built on the thorough assessment of the 5th EAP and the same goes for the 7th EAP with respect to its predecessor. The gaps in implementation and priority objectives identified by these assessments have successfully come back in the priority objectives and areas of following programmes. Also, the involvement of a wider pool of players has been sought. This is in line with the recommendations in recent EAP assessments on involving a wider pool of stakeholders (including non-governmental stakeholders) in environmental policy to ensure there is more commitment to achieving the programmes objectives. The non-prescriptive nature of the EAP (as opposed to legislation) is a significant factor affecting the level of stakeholder cooperation regarding the programme's ambitious nature.