

This report has been written by the staff of the Directorate-General for Environment, European Commission. Any comments are welcome to the following e-mail address: [ENV-EIR@ec.europa.eu](mailto:ENV-EIR@ec.europa.eu)

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**Executive summary**

**About the Environmental Implementation Review**

In May 2016, the Commission launched the Environmental Implementation Review (EIR), a two-year cycle of analysis, dialogue and collaboration to improve the implementation of existing EU environmental policy and legislation[[1]](#footnote-1). As a first step, the Commission drafted 28 reports describing the main challenges and opportunities on environmental implementation for each Member State. These reports are meant to stimulate a positive debate both on shared environmental challenges for the EU, as well as on the most effective ways to address the key implementation gaps. The reports rely on the detailed sectoral implementation reports collected or issued by the Commission under specific environmental legislation as well as the 2015 State of the Environment Report and other reports by the European Environment Agency. These reports will not replace the specific instruments to ensure compliance with the EU legal obligations.

The reports will broadly follow the outline of the 7th Environmental Action Programme[[2]](#footnote-2) and refer to the 2030 Agenda for Sustainable development and related Sustainable Development Goals (SDGs)[[3]](#footnote-3) to the extent to which they reflect the existing obligations and policy objectives of EU environmental law[[4]](#footnote-4).

The main challenges have been selected by taking into account factors such as the importance or the gravity of the environmental implementation issue in the light of the impact on the quality of life of the citizens, the distance to target, and financial implications.

The reports accompany the Communication *"The EU Environmental Implementation Review 2016: Common challenges and how to combine efforts to deliver better results"*, which identifies challenges that are common to several Member States, provides preliminary conclusions on possible root causes of implementation gaps and proposes joint actions to deliver better results. It also groups in its Annex the actions proposed in each country report to improve implementation at national level.

**General profile**

Austria's performance in terms of environmental protection is good. Water quality is generally good. Waste management is based on high recycling rates and low landfill, although waste generation is still high. In a range of policy areas (circular economy, green infrastructure) Austria has developed modern overarching approaches (Master Plan Green Jobs, natural capital accounting) to implement environmental objectives.

**Main Challenges**

The main challenges Austria faces with regard to implementing EU environmental policy and law are:

* Improving the designation and protection of Natura 2000 sites.
* Reducing nitrogen oxide emissions, in particular in urban areas.

**Main Opportunities**

Austria could perform better on issues where a sound knowledge base and good practices already exist. This applies in particular to:

* Further development of the natural capital account approach.

**Points of excellence**

Where Austria leads in environmental implementation, it could share its innovative approaches more widely among other countries. Concrete examples include:

* Austria has established a specific platform focusing on Green Public Procurement, including a help-desk for procurement officers to exchange experiences.
* Austria has developed successful good practices in the field of eco-innovation and the circular economy, such as the 'Buy Aware' initiative.
* Austria's Green Infrastructure strategy promotes the systematic integration of natural ecosystems and their services into spatial planning.

**Part I: Thematic Areas**

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

**Developing a circular economy and improving resource efficiency**

The 2015 Circular Economy Package emphasizes the need to move towards a lifecycle-driven ‘circular’ economy, with a cascading use of resources and residual waste that is close to zero. This can be facilitated by the development of, and access to, innovative financial instruments and funding for eco-innovation.

SDG 8 invites countries to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. SDG 9 highlights the need to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. SDG 12 encourages countries to achieve the sustainable management and efficient use of natural resources by 2030.

**Measures towards a circular economy**

Transforming our economies from linear to circular offers an opportunity to reinvent them and make them more sustainable and competitive. This will stimulate investments and bring both short and long-term benefits for the economy, environment and citizens alike[[5]](#footnote-5).

Austria is below average in the EU in terms of resource productivity (how efficiently the economy uses material resources to produce wealth), with 1.65 EUR/kg (EU average is 2) in 2015[[6]](#footnote-6). This might be explained by the high income and an export-orientated manufacturing sector in Austria. Figure 1 shows a modest but stable increase in resource productivity since 2011.

In Austria, to date, no overarching circular economy policy programme exists. A number of measures and initiatives have been set up by different government bodies in recent years relating to eco-innovation and – to a limited extent – to circular economy. As well as relevant Ministries other organisations, such as the Austrian Chamber of Commerce, play an important role in (co-)financing eco-innovation-related initiatives.

In 2012, Austria adopted a resource efficiency Action Plan to improve the overall resource efficiency by 50 % compared to 2008, by 2020. Since in a business-as-usual scenario productivity of resources is expected to grow at an annual rate of 1.2%, additional efforts will be needed to meet the target established in the Action Plan.

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| **Figure 1: Resource productivity 2003-15[[7]](#footnote-7)** |
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In addition, the recently developed RESET2020 initiative, aiming at integrating resource efficiency in the areas of environmental technologies and sustainable production and consumption, is one of the first initiatives that explicitly put circular economy principles in the centre.

Concerning the opportunities within Austria, several regional development initiatives are founded around the principles of a circular economy and energy autonomy. These include, among others, the Styrian Volcano Land (www.vulkanland.at), the European Centre for Renewable Energy in Güssing[[8]](#footnote-8), the BioRegion Mühlviertel[[9]](#footnote-9) or the Energy Vision Murau[[10]](#footnote-10).

Austria has many good practices in the field of eco-innovation and circular economy. One is “Bewusst kaufen”: the initiative "Buy Aware" is the first web portal for sustainable consumption in Austria. It aims to increase consumer awareness of sustainable products and provides extensive information on options for conscious, sustainable consumption.

The number of employees in the environmental goods and services sector has risen slightly from 167,665 full-time equivalents (FTE) in 2008 to around 182,534 FTE in 2013[[11]](#footnote-11). The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) considers that every 20th job is in the environment sector and that 11% of the GDP are generated by this sector. Between 2008 and 2011 the environmental industry showed a clear positive trend as regards the development of green jobs. While in the economy at large employment increased by only 0.4%, employment in the environment sector saw a notable plus with a growth of 2.1%. During the same period the turnover in the environment sector rose by 5.1%, thus reaching EUR 2.6 billion.

In 2010, Austria set up a master plan on "green jobs"[[12]](#footnote-12) with the aim of increasing the number of employees in the environmental sector by 100,000 until 2020. The master plan is supported by the specific online portal *green-jobs*[[13]](#footnote-13) and a targeted qualification initiative *klimaaktiv Bildungskoordination*[[14]](#footnote-14)*.*

In general, Austria offers a wide range of measures to support business in improving its resource efficiency, ranging from voluntary measures to regulatory measures. An analysis[[15]](#footnote-15) shows that Austria offers nine out of ten assessed support activities so that it belongs to the ten best performing Member States. The following initiative could be mentioned as successful examples: As regards providing targeted resource efficiency information and advice to companies the *ÖKOPROFIT programme* which was launched in 1991 and which aims to help companies to implement environmental measures, thereby reducing industrial emissions, decreasing the operational costs for companies and strengthening the partnership between public agencies, companies and experts.

**SME and resource efficiency**

In the Flash 426 Eurobarometer "SMEs, resource efficiency and green markets"[[16]](#footnote-16) it is shown that 63% of Austrian's SMEs have invested up to 5% of their annual turnover in their resource efficiency actions (EU28 average 50%), 43% of them are currently offering green products and services, 67% took measures to save energy (EU28 average 59%), 61% to minimise waste (EU28 average 60%), 39% to save water (EU28 average 44%), and 57% to save materials (EU28 average 54%). From a circular economy perspective, 47% took measures to recycle by reusing material or waste within the company, 31% to design products that are easier to maintain, repair or reuse and 30% were able to sell their scrap material to another company.

According to Eurobarometer[[17]](#footnote-17), the resource efficiency actions undertaken allowed the reduction of production costs in 35% of Austrian SMEs.

SMEs provide more than two thirds of jobs and over 60% of total value added. The Eurobarometer shows that 34% of the SMEs in Austria have one or more full time employee working in a green job at least some of the time. Austria has an average number of 1.6 full time green employees per SME.

**Eco-innovation**

With a total score of 108 in the overall Eco-Innovation Scoreboard (Eco-IS) 2015, Austria ranked eighth in the list of EU countries, located between France and Spain and slightly above the EU average as shown in Figure 2. Compared with the Eco-IS used in the last country profile from 2013, Austria thus improved its ranking by one place.

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| **Figure 2: Eco-Innovation Index 2015 (EU=100)[[18]](#footnote-18)** |
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Regarding drivers of eco-innovation activities, a survey conducted among 200 Austrian eco-innovative entrepreneurs revealed the most important driving forces and framework conditions for business actors (Eurobarometer, 2011). According to this survey, the key drivers for high eco-innovation activity in Austria are the availability of suitable business partners, potential high energy prices in the future, expected limitations regarding access to raw materials, technological and management skills available within the companies, and access to relevant knowledge[[19]](#footnote-19).

Regarding general driving forces in support of eco-innovation in Austria, several issues have already been highlighted in previous country reports of the Eco-Innovation Observatory (EIO), which continue to have high relevance:

* Well-established, fast-growing and innovative environmental technologies sector.
* Significant increase in funding in the area of company-related research and technology development.

However, actors in Austria also face a number of important barriers, several of which are closely connected to the structure of the Austrian economy and business sectors, such as the following:

* SME-type structure of the industry and notably the limited financial and human resources in SMEs, and difficult trade-offs due to scarce resources either in R&D or in production and planning.
* weak domestic eco-industry market.
* perception of Austrian business representatives that investments into new, eco-innovative technologies represent a disproportionate risk.

Austria has 286 organisations registered for EMAS, which represents 7% of all registered organisations.

Concerning the EU Eco-label, Austria has 187 licenses, which makes Austria the fifth Member State in terms of Eco-label licenses.

The Minister of Environment has launched the initiative “Best of Austria” in 2016 to promote products and ideas from Austrian companies, including environmental technologies.

**Waste management**

Turning waste into a resource requires:

* Full implementation of Union waste legislation, which includes the waste hierarchy; the need to ensure separate collection of waste; the landfill diversion targets etc.
* Reducing per capita waste generation and waste generation in absolute terms.
* Limiting energy recovery to non-recyclable materials and phasing out landfilling of recyclable or recoverable waste.

SDG 12 invites countries to substantially reduce waste generation through prevention, reduction, recycling and reuse, by 2030.

The EU's approach to waste management is based on the "waste hierarchy" which sets out an order of priority when shaping waste policy and managing waste at the operational level: prevention, (preparing for) reuse, recycling, recovery and, as the least preferred option, disposal (which includes landfilling and incineration without energy recovery). The progress towards reaching recycling targets and the adoption of adequate WMP/WPP[[20]](#footnote-20) should be the key items to measure the performance of Member States. This section focuses on management of municipal waste for which EU law sets mandatory recycling targets.

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| **Figure 3: Municipal waste by treatment in Austria 2007-14[[21]](#footnote-21)** |
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Municipal waste[[22]](#footnote-22) generation in Austria has been decreasing over the years. However, waste generation is still relatively high compared to the EU average (566 kg/y/inhabitant compared to around 474 kg on EU average).

Austria is among the top performers in the EU with regard to waste management. Figure 3 depicts the municipal waste by treatment in Austria in terms of kg per capita. What can be seen from the statistics is that the rate of incineration slightly increased, while composting rates slightly decreased.

Figure 4 shows that Austria has already met all the EU recycling targets[[23]](#footnote-23), including packaging waste recycling. The 2014 recycling rate of municipal waste was relatively high (58% of which 32% is composting) and was well above EU level (44%). The landfilling rate in Austria is very low (4%) and far below the EU average (28%). Austria has complied with both the 2006 and the 2009 landfill diversion targets. In 2009 Austria had already a ban on landfilling of biodegradable municipal waste in place.

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| **Figure 4: Recycling rate of municipal waste 2007-14[[24]](#footnote-24)** |
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In the light of the on-going review of the recycling targets and landfill restrictions for municipal waste[[25]](#footnote-25), additional efforts will be needed to meet the recycling target of 65% for 2030. Therefore Austria should now focus on prevention and diverting waste from incineration to recycling.

Extended Producer Responsibility (EPR) systems are in place for different waste streams. However, some MS are covering more waste streams than Austria. Incentive systems to favour prevention and participation in separate collection schemes (Pay as you throw-system, PAYT systems) are in place but don’t cover the whole country.

Moving towards the targets of the Roadmap on resource efficiency which outlines how we can transform Europe's economy into a sustainable one by 2050, could create over 3400 additional jobs and increase the annual turnover of the waste sector by over EUR 350 million[[26]](#footnote-26).

Suggested action

* Introduce new policy instruments, including economic instruments, to promote prevention, make reuse and recycling more economically attractive.
* Shift reusable and recyclable waste away from incineration by gradually phasing out subsidies to incineration.

1. **Protecting, conserving and enhancing natural capital**

**Nature and Biodiversity**

The EU Biodiversity Strategy aims to halt the loss of biodiversity in the EU by 2020, restore ecosystems and their services in so far as feasible, and step up efforts to avert global biodiversity loss. The EU Birds and Habitats Directives aim at achieving favourable conservation status of protected species and habitats.

SDG 14 requires countries to conserve and sustainably use the oceans, seas and marine resources, while SDG 15 requires countries to protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

The 1992 EU Habitats Directive and the 1979 Birds Directive are the cornerstone of the European legislation aimed at the conservation of the EU's wildlife. Natura 2000, the largest coordinated network of protected areas in the world, is the key instrument to achieve and implement the Directives' objectives to ensure the long-term protection, conservation and survival of Europe's most valuable and threatened species and habitats and the ecosystems they underpin.

The adequate designation of protected sites as Special Ares of Conservation (SAC) under the Habitats Directive and as Special Protection Areas (SPA) under the Birds Directive is a key milestone towards meeting the objectives of the Directives. The results of Habitats Directive Article 17 and Birds Directive Article 12 reports and the progress towards adequate Sites of Community Importance (SCI)-SPA and SAC designation[[27]](#footnote-27) both in land and at sea, should be the key items to measure the performance of Member States.

Austria has an exceptionally diversified landscape, climate and hence biodiversity. In Austria, the Alpine, the Continental and the Pannonian biogeographic regions converge. Agriculture and forestry areas account for about 80% of the country’s territory.

By early 2016, 15.1 % of the Austrian national territory is covered by Natura 2000 (EU average 18.1 %), with Birds Directive Special Protection Areas (SPAs) covering 10.9 % (EU average 12.3 %) and Habitats Directive Sites of Community Importance (SCIs) covering 12.1% (EU average 13.8 %). However, there are substantial variations amongst the 9 Austrian regions in the share of land covered by Natura 2000, two of the regions only having coverages around 6%.

The latest EU-wide assessment of the SCIs part of the Natura 2000 network shows that there are insufficiencies in designation[[28]](#footnote-28) as shown in Figure 5[[29]](#footnote-29). This is subject to an infringement procedure.

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| **Figure 5: Sufficiency assessment of SCI networks in Austria based on the situation until December 2013 (%)[[30]](#footnote-30)** |
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Austria is largely compliant with the formal (Special Areas of Conservation) SAC designation requirements that concern those SCIs that have been proposed more than 6 years ago. Many of the site-level SAC designation acts, while formally indicating conservation objectives and measures, are unlikely to provide a sufficient level of protection against site deterioration. This is notably because they include an exemption of all "contemporary agricultural and forestry practises" from the site protection requirements. In the last years, there is increasingly strong evidence that this exemption is leading towards a widespread (and perhaps systematic) deterioration of many habitats and decline of many species populations for which sites have initially been designated.

The level of nature-related complaints and infringement cases is overall high in Austria, which might partially be explained by the absence of a federal legislation transposing the EU Nature directives[[31]](#footnote-31). Therefore, each of the nine Länder has a different legal basis for implementing the EU nature directives. In addition to this, the high number of complaints can be also explained by the insufficient access to justice. For example, citizens and NGOs turn to the Commission because no legal redress is available in Austria apart from EIA and IPPC procedures.

The Austrian report under Article 12 Birds Directive[[32]](#footnote-32) and Article 17 Habitats Directive[[33]](#footnote-33) confirm that species and habitats depending on agricultural land use are those that are suffering the most serious declines.

This is primarily due to widespread agricultural land use intensification in the more favoured areas, but land abandonment is an increasing issue in higher alpine regions, in particular for alpine semi-natural grassland habitats and associated species.

According to the latest report on the conservation status of habitats and species covered by the Habitats Directive, 13.9% of the habitats' biogeographic assessments were favourable in 2013 (EU 27: 16 %). On the other hand, 41 % are considered to be unfavourable–inadequate[[34]](#footnote-34) (EU27: 47%) and 39 % are unfavourable – bad (EU27: 30%). As for the species, 15.9 % of the assessments were favourable in 2013 (EU 27: 23%) 47 % at unfavourable-inadequate (EU27: 42%) and 34% unfavourable-bad status (EU27: 18%). This is depicted in Figure 6[[35]](#footnote-35). Only 9.8% and 3% of the unfavourable assessments respectively for species and habitats were showing a positive trend in 2013. While the unfavourable assessments remained the same with regard to habitats between 2007and 2013, the trend for species improved.

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| **Figure 6: Conservation status of habitats and species in Austria in 2007/2013 (%)[[36]](#footnote-36)** |
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Figure 7 shows that as far as birds are concerned, 70% of the breeding species showed short-term increasing or stable population trends (for wintering species this figure was 68%).

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| **Figure 7: Short-term population trend of breeding and wintering bird species in Austria in 2012 (%)[[37]](#footnote-37)** |
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Austria is the only EU member State where a population of large carnivore species became extinct since EU accession of the country (Central Alpine brown bear population). Whereas populations of large carnivores are overall increasing in Europe, no such increase currently in observed in Austria. Media reports suggest that high levels of illegal poaching are the main driver behind this phenomenon.

The 5th national report to the Convention on Biological Diversity (CBD)[[38]](#footnote-38) indicates a net deterioration of 7–8% for habitat types and 2–3% for species, compared to the previous reporting period covering 2001-2006. The conservation status of habitats and species is less favourable in the continental than in the Alpine region. Amongst all ecosystem types in Austria freshwater, mire and grassland ecosystems are doing worst.

Major threats to biodiversity include agricultural intensification and land abandonment, increased sealing of land caused by housing and infrastructure development with the related loss and fragmentation of habitats; afforestation and dead wood removal; pollution, hydrological modifications, invasive alien species and climate change.



Compared to other Member States of similar size, Austria has been very successful in obtaining LIFE-Nature funding, in particular for Alpine river restoration projects. Austrian regional river administrations are well suited for preparing and implementing such projects, successfully combining nature conservation and flood protection.

3.9 million hectare (46%) of the total area in Austria are forest land[[39]](#footnote-39) (0.5 ha per capita). The forest area is steadily increasing by some 2000 ha a year depending on afforestation of abandoned agricultural land. Coniferous forests of mixed and/or pure stands of spruce, fir, pine, larch, beach, maple, oak, alder, etc. find good growing conditions. 80% (3.1 million hectare) serve as commercial forests, 20% are protected forests.

The main tree species are conifers (70%, predominantly spruce; and 30% broad-leaved species (mainly beech). Slightly above a half (53%) is small private forests (<200 ha), 32% private estates (>200 ha), and 15% federal forests.

Suggested action

* Complete the SAC designation process and put in place clearly defined conservation objectives and the necessary conservation measures for the sites and provide adequate resources for their implementation in order to maintain/restore species and habitats of community interest to a favourable conservation status across their natural range.
* Develop and promote smart and streamlined implementation approaches, in particular as regards site and species permitting procedures, ensuring the necessary knowledge and data availability.

**Estimating Natural Capital**

The EU Biodiversity Strategy to 2020 calls on the Member States to map and asses the state of ecosystems and their services in their national territory by 2014, assess the economic value of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020.

MAES related activities in Austria focused on the development of biodiversity indicators. The mapping and assessing of ecosystems and their services[[40]](#footnote-40) is also part of the [Austrian Strategy on Biological Diversity 2020+ published in 2014[[41]](#footnote-41)](http://www.bmlfuw.gv.at/umwelt/natur-artenschutz/biologische_vielfalt/biodiversitaet.html). Further activities regarding mapping and assessing of ecosystems and their services are planned.

A 2013 report on the situation and the significance of biological diversity maps out the different types of ecosystems and evaluated their conditions.[[42]](#footnote-42)

Work on natural capital accounting is at an early stage of development[[43]](#footnote-43) with a number of initiatives for the improvement of the knowledge base. A nation-wide mapping of ecosystems is underway with a spatial resolution of 10 x 10 metres[[44]](#footnote-44). An inventory of ecosystem services in agricultural context, taking into account human well-being and economic input, was published in 2011[[45]](#footnote-45) followed by an inventory of ecosystem services of forests in 2015[[46]](#footnote-46). A 2011 study[[47]](#footnote-47) supplied the first experience with monetary assessments of ecosystem services, along stretches of the river Mur in Styria. A 2015 report examined the potential, requirements and risks of the economic valuation of ecosystem services[[48]](#footnote-48). An assessment and economic valuation of five ecosystem services were carried out by the Austrian Federal Forests[[49]](#footnote-49).

Suggested action

* Provide government support to further improve knowledge on the mapping and assessment of ecosystems and their services, including valuation and development of natural capital accounting systems.

**Green Infrastructure**

The EU strategy on green infrastructure[[50]](#footnote-50) promotes the incorporation of green infrastructure into related plans and programmes to help overcome fragmentation of habitats and preserve or restore ecological connectivity, enhance ecosystem resilience and thereby ensure the continued provision of ecosystem services.

Green Infrastructure provides ecological, economic and social benefits through natural solutions. It helps to understand the value of the benefits that nature provides to human society and to mobilise investments to sustain and enhance them.

The Austrian Biodiversity Strategy 2020+[[51]](#footnote-51) includes actions to strengthen biotope connectivity. Austria has specific targets for integrating biodiversity and ecosystem services in spatial planning[[52]](#footnote-52), with measures such as incorporating ecological infrastructure in spatial planning, consideration of functional connectivity and the habitat network when establishing compensating areas, increase of grasslands in urban areas, abandoned buildings and the provision of features that promote biodiversity in newly established green areas, and the preservation of un-fragmented areas and migration corridors. Most activities are executed at the local or federal province level and are funded by a variety of sources, including EU support.

Green Infrastructure projects in Austria include cross-border spatial planning and habitat management measures in the Alps-Carpathians passage aimed at creating and preserving a coherent 120-km wide ecological corridor from the Alps to the Carpathians; the restoration of the Lower Morava Floodplains to near-natural river dynamics and new land-use practices; the restoration of the floodplain habitats of the Traisen and the Ybbs rivers through Life+ projects; and other projects.

The Austrian League for Nature Conservation (Naturschutzbund) coordinates land purchase, management and public awareness raising activities in the 1,300km that Austria contributes to the European Green Belt[[53]](#footnote-53).

**Soil protection**

The EU Soil Thematic Strategy highlights the need to ensure a sustainable use of soils. This requires the prevention of further soil degradation and the preservation of its functions, as well as the restoration of degraded soils. The 2011 Road Map for Resource-Efficient Europe, part of Europe 2020 Strategy provides that by 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve no net land take by 2050.

SDG 15 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.

Soil is an important resource for life and the economy. It provides key ecosystem services including the provision of food, fibre and biomass for renewable energy, carbon sequestration, water purification and flood regulation, the provision of raw and building material. Soil is a finite and extremely fragile resource and increasingly degrading in the EU. Land taken by urban development and infrastructure is highly unlikely to be reverted to its natural state; it consumes mostly agricultural land and increases fragmentation of habitats. Soil protection is indirectly addressed in existing EU policies in areas such as agriculture, water, waste, chemicals, and prevention of industrial pollution.

Artificial land cover is used for settlements, production systems and infrastructure. It may itself be split between built-up areas (buildings) and non-built-up areas (such as linear transport networks and associated areas).

Built-up land in Austria is regularly monitored based on cadastre data. In 2015, built-up land amounted to 6.6 % of the national area. The actually high annual land take rate is currently slightly decreasing, namely from 8,150 hectare in the period from 2009 to 2012 to 5,916 hectare in the period from 2012 to 2015[[54]](#footnote-54).

The annual land take rate (growth of artificial areas) as provided by CORINE Land Cover was 0.21% in Austria over the period 2006-12, below the EU average (0.41%). It represented 947.5 hectares per year[[55]](#footnote-55).

The soil erosion rate in 2009 was 3.8 tonnes per ha per year, some above EU28 average (2.46 tonnes)[[56]](#footnote-56). Studies in 2012 and 2014 show similar results, but are not yet published[[57]](#footnote-57). Soil protecting cultivation supported by the Austrian agri-environment-programme has already led to an increased humus content in Austria’s agricultural soils as well to a lower soil erosion rate for 3.4 t/ha/year[[58]](#footnote-58).

There are still not EU-wide datasets enabling the provision of benchmark indicators for soil organic matter decline, contaminated sites, pressures on soil biology and diffuse pollution. An updated inventory and assessment of soil protection policy instruments in Austria and other EU Member States is being performed by the EU Expert Group on Soil Protection.

Figure 8 shows the different land cover types in Austria in 2012.

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| **Figure 8: Land Cover types in Austria 2012[[59]](#footnote-59)** |
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1. **Ensuring citizens' health and quality of life**

**Air quality**

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| **Figure 9: Attainment situation for PM10, NO2 and O3 in 2014** |
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The EU Clean Air Policy and legislation require that air quality in the Union is significantly improved, moving closer to the WHO recommended levels. Air pollution and its impacts on ecosystems and biodiversity should be further reduced with the long-term aim of not exceeding critical loads and levels. This requires strengthening efforts to reach full compliance with Union air quality legislation and defining strategic targets and actions beyond 2020.

The EU has developed a comprehensive suite of air quality legislation[[60]](#footnote-60), which establishes health-based standards and objectives for a number of air pollutants. As part of this, Member States are also required to ensure that up-to-date information on ambient concentrations of different air pollutants is routinely made available to the public. In addition, the National Emission Ceilings Directive provides for emission reductions at national level that should be achieved for main pollutants.

The emission of several air pollutants has decreased significantly in Austria[[61]](#footnote-61). Reductions between 1990 and 2014 for sulphur oxides (-78%), as well as volatile organic compounds (-61%) ensure air emissions for these pollutants are within the currently applicable national emission ceilings[[62]](#footnote-62). Insufficient reductions in emissions for nitrogen oxides (-30 %) and a slight increase of ammonia emissions result in non-compliance with current ceilings: these are exceeded by 47% and 2%, respectively. It should be noted that the exceedance of the current ceiling for nitrogen oxides is partly due to the non-delivery of the Euro standards for diesel vehicles, while the exceedance of the ceiling for ammonia partly results from the reporting of new sources of emissions which were not estimated or considered at the time when the emission ceilings were set.

At the same time, air quality in Austria continues to give cause for concern. For the year 2013, the European Environment Agency estimated that about 6 960 premature deaths were attributable to fine particulate matter[[63]](#footnote-63) concentrations, 330 to ozone[[64]](#footnote-64) concentration and 910 to nitrogen dioxide[[65]](#footnote-65) concentrations.[[66]](#footnote-66) This is due also to exceedances above the EU air quality standards such as shown in Figure 9[[67]](#footnote-67).

For 2014, exceedances reported include those related to limit value of annual mean concentration of nitrogen dioxide (NO2) in seven air quality zones (Oberösterreich, Vorarlberg, Tirol, Salzburg, Graz, Linz, and Wien), and related to limit value of daily concentrations of particulate matter (PM10) in one air quality zone (Graz). Furthermore, the target values for ozone are not met in several air quality zones.[[68]](#footnote-68)

The persistent breaches of air quality requirements (for NO2), which have severe negative effects on health and environment are being followed up by the European Commission through infringement procedures covering all the Member States concerned, including Austria. The aim is that adequate measures are put in place to bring all zones into compliance.

It has been estimated that the health-related external costs from air pollution in Austria are above EUR 5 billion/year (income adjusted, 2010), which include not only the intrinsic value of living a full health life but also direct costs to the economy. These direct economic costs relate to almost 2 million workdays lost each year due to sickness related to air pollution, with associated costs for employers of EUR 249 million/year (income adjusted, 2010), for healthcare of above EUR 24 million/year (income adjusted, 2010), and for agriculture (crop losses) of EUR 82 million/year (2010)[[69]](#footnote-69).

Suggested action

* Maintain downward emissions trends of air pollutants in order to achieve full compliance with currently applicable national emission ceilings and air quality limit values - and reduce adverse air pollution impacts on health, environment and economy.
* Reduce ammonia (NH3) emissions to comply with currently applicable national emission ceilings, for example by introducing or expanding the use of low-emission agricultural techniques.
* Reduce nitrogen oxide (NOx) emissions to comply with currently applicable national emission ceilings[[70]](#footnote-70) and/or to reduce nitrogen dioxide (NO2) (and ozone concentrations), inter alia, by reducing transport related emissions - in particular in urban areas.
* Reduce PM10 emission and concentration, inter alia, by reducing emissions related to energy and heat generation using solid fuels, to transport and to agriculture.

**Noise**

The Environmental Noise Directive provides for a common approach for the avoidance, prevention and reduction of harmful effects due to exposure to environmental noise.

Excessive noise is one of the main causes of health issues[[71]](#footnote-71). To alleviate this, the EU *acquis* sets out several requirements, including assessing the exposure to environmental noise through noise mapping, ensuring that information on environmental noise and its effects is made available to the public, and adopting action plans with a view to preventing and reducing environmental noise where necessary and to preserving the acoustic environment quality where it is good.

Austrian authorities have fulfilled all their obligations with regards to the Environmental Noise Directive[[72]](#footnote-72) for the current reporting period.

**Water quality and management**

The EU water policy and legislation require that 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 of water bodies, as defined by the Water Framework Directive; that citizens throughout the Union benefit from high standards for safe drinking and bathing water; and that the nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.

SDG 6 encourages countries to ensure availability and sustainable management of water and sanitation for all.

The main overall objective of EU water policy and legislation is to ensure access to good quality water in sufficient quantity for all Europeans. The EU water *acquis*[[73]](#footnote-73) seeks to ensure good status of all water bodies across Europe by addressing pollution sources (from e.g. agriculture, urban areas and industrial activities), physical and hydrological modifications to water bodies) and the management of risks of flooding.

River Basin Management Plans (RBMPs) are a requirement of the Water Framework Directive and a means of achieving the protection, improvement and sustainable use of the water environment across Europe. This includes surface freshwaters such as lakes and rivers, groundwater, estuaries and coastal waters up to one nautical mile.

Austria has not yet provided information to the Commission from its second generation of RBMPs.

In its first generation of RBMPs Austria reported the status of 7339 rivers, 62 lakes and 136 groundwater bodies. Only 44% of natural surface water bodies achieve a good or high ecological status[[74]](#footnote-74) and 26% of heavily modified or artificial water bodies[[75]](#footnote-75) achieve a good or high ecological potential. Almost all surface water bodies and heavily modified and artificial water bodies and 98% of groundwater[[76]](#footnote-76) bodies achieve at least good chemical status[[77]](#footnote-77). 98%[[78]](#footnote-78) of groundwater bodies are in good quantitative status[[79]](#footnote-79).

The main pressure on Austrian waters comes from flow regulation and morphological changes – 56% of surface water bodies are affected. The next most important pressure is diffuse pollution[[80]](#footnote-80) mainly from agriculture (nutrients and pesticides) but also from industry– 16% of water bodies are affected. Point sources such as Urban Waste Water Treatment Plants and industrial installations affect 1% of water bodies. Hydropower is the main pressure relating to water abstraction. Water abstraction for irrigation is only of importance in South/East Austria. Commercial and industrial abstractions are substantially lower than the significance thresholds established and do not pose a risk for achieving good ecological potential.

Austria has capable water management administration and developed River Basin Management Plans for 2009 that are largely in compliance with the requirements of the Water Framework Directive. However, the plans are not fully transparent on several aspects including the link between monitoring and status classification, design of programmes of measures addressing the hydromorphological pressures from hydropower and diffuse pollution from agriculture, and application and justification of exemptions. The measures planned are expected to result in only slight improvement of water status.

In the context of the Nitrates Directive,Austria has decided to apply mandatory measures on its whole territory. The 2008-2011 Nitrates Directive reporting showed an overall stable situation concerning nitrate concentrations; however eutrophication trends of inland waters showed the need for further improvements[[81]](#footnote-81).

As regards drinking water, Austria reaches very high compliance rates of 99-100 % for microbiological, chemical and indicator parameters laid down in the Drinking Water Directive[[82]](#footnote-82).

As shown in Figure 10, in 2015 in Austria, out of 265 bathing waters, 90.2 % were of excellent quality, 9.1% of good quality and 0.4% of sufficient quality[[83]](#footnote-83). It is shown that Austria has improved its bathing water quality since 2012.

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| **Figure 10: Bathing water quality 2012 – 2015[[84]](#footnote-84)** |
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Austria demonstrates excellent compliance rates with the Urban Waste Water Treatment Directive[[85]](#footnote-85).

Flood risk areas have already been identified and mapped in Austria[[86]](#footnote-86). Austria is hit regularly by flooding incidents with serious economic damage costs[[87]](#footnote-87). Between 2002 and 2013, for the 8 floods recorded the total direct costs were EUR 5300 million. The average cost per flood was EUR 660 million.

Within the 2007-2013 EU-funding period Austria implemented several projects to improve flood prevention. For the running funding period (2014-2020) the River Modelling Centre in Vienna is foreseen to receive financial support for its work regarding floods.

Suggested action

* Develop and implement an effective Programme of Measures clearly focusing on the main pressures (hydromorphology and diffuse pollution) and covering fully the implementation gaps in order to improve the overall status in the future.
* Improve the transparency of the use of exemptions including for hydropower permits, especially by using criteria provided by the European law.

**Enhancing the sustainability of cities**

The EU Policy on the urban environment encourages cities to implement policies for sustainable urban planning and design, including innovative approaches for urban public transport and mobility, sustainable buildings, energy efficiency and urban biodiversity conservation.

SDG11 aims at making cities and human settlements inclusive, safe, resilient and sustainable.

Europe is a Union of cities and towns; around 75% of the EU population are living in urban areas.[[88]](#footnote-88) The urban environment poses particular challenges for the environment and human health, whilst also providing opportunities and efficiency gains in the use of resources.

The Member States, European institutions, cities and stakeholders have prepared a new Urban Agenda for the EU (incorporating the Smart Cities initiative) to tackle these issues in a comprehensive way, including their connections with social and economic challenges. At the heart of this Urban Agenda will be the development of twelve partnerships on the identified urban challenges, including air quality and housing[[89]](#footnote-89).

The European Commission will launch a new EU benchmark system in 2017[[90]](#footnote-90).

The EU stimulates green cities through awards and funding, such as the EU Green Capital Award aimed at cities with more than 100,000 inhabitants and the EU Green Leaf initiative aimed at cities and towns, with between 20,000 and 100,000 inhabitants.

From the European Regional Development Fund Austria has allocated EUR 27.2 million for sustainable urban development (Vienna and Upper Austria) to help solving use conflicts in cities and urban areas. Measures like CO2 reduction strategies, sustainable mobility strategies, integrated sustainable development and efficient use of resources will be supported.

An EcoBusinessPlan sponsored by the city of Vienna since 1998 supports Viennese companies in implementing environmental / sustainability - relevant measures in the company and contributes to decreasing administrative costs. The EcoBusinessPlan Vienna has achieved a number of successes: 817 participating companies, with more than 11,000 environmental projects from waste prevention to energy saving measures to rearranging complete production processes.

**International agreements**

The EU Treaties require that the Union policy on the environment promotes measures at the international level to deal with regional or worldwide environmental problems.

Most environmental problems have a transboundary nature and often a global scope and they can only be addressed effectively through international co-operation. International environmental agreements concluded by the Union are binding upon the institutions of the Union and on its Member States. This requires the EU and the Member States to sign, ratify and effectively implement all relevant multilateral environmental agreements (MEAs) in a timely manner. This will also be an important contribution towards the achievement of the SDGs, which Member States committed to in 2015 and include many commitments contained already in legally binding agreements.

The fact that some Member States did not sign and/or ratify a number of MEAs compromises environmental implementation, including within the Union, as well as the Union’s credibility in related negotiations and international meetings where supporting the participation of third countries to such agreements is an established EU policy objective. In agreements where voting takes place it has a direct impact on the number of votes to be cast by the EU.

Currently, Austria has signed but not yet ratified the Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone and the Nagoya Protocol[[91]](#footnote-91). It has neither signed nor ratified the African-Eurasian Migratory Waterbird Agreement.

**Part II: Enabling Framework: Implementation Tools**

**4. Market based instruments and investment**

**Green taxation and environmentally harmful subsidies**

The Circular Economy Action Plan encourages the use of financial incentives and economic instruments, such as taxation to ensure that product prices better reflect environmental costs. The phasing out of environmentally harmful subsidies is monitored in the context of the European Semester and in national reform programmes submitted by Member States.

Taxing pollution and resource use can generate increased revenue and bring important social and environmental benefits.

Latest data show that environmental tax revenue amounted to 2.43% of Austria's GDP in 2014 (EU28 average: 2.46%), having been relatively stable since 2004 (2.37%)[[92]](#footnote-92).

In the same year environmental tax revenues accounted for 5.63% of total revenues from taxes and social-security contributions[[93]](#footnote-93) (EU28 average: 6.35%) as shown in Figure 11.

The Austrian austerity package of 2011 included the introduction of a flight levy (short distance EUR 8, middle distance EUR 20, long distance EUR 35), an increase in the mineral oil tax on diesel (of EUR 0.05/litre) and petrol (of EUR 0.04/litre) and an adjustment of the car registration tax: on the one hand, the carbon element of the tax was increased; on the other hand, the permissible limits for toxic emissions were reduced.

In the Stability Act of 2012, mineral oil tax reimbursement for agriculture and public transport was abolished (generating revenues of about EUR 0.07-0.08 billion). The flight levy introduced in 2011 was reduced for competitive reasons (short distance EUR 7, middle distance EUR 15, long distance EUR 35), and commuting allowances were raised (leading to additional budget losses of about EUR 0.15 billion).

A 2016 study shows for Austria there is considerable potential for shifting taxes from labour to environmental taxes[[94]](#footnote-94). Under a good practise scenario[[95]](#footnote-95), these taxes could generate an additional EUR 1545 million in 2018, rising to EUR 3032 million in 2030 (both in real 2015 terms). This is equivalent to an additional 0.44% and 0.73% of GDP in 2018 and 2030, respectively[[96]](#footnote-96).

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| **Figure 10: Environmental tax revenues as a share of total revenues from taxes and social contributions (excluding imputed social contributions) in 2014[[97]](#footnote-97)** |
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The largest potential source of revenue comes from the proposed amendments to taxes on transport fuels. This accounts for EUR 1090 million in 2030 (real 2015 terms), equivalent to 0.26% of GDP.

In Austria appears to have, according to a Commission's assessment[[98]](#footnote-98) a potential need to reduce a relatively high tax burden on labour and potential scope to increase the least distortive taxes like environmental taxes. Potential scope to increase environmental taxes might exist since the implicit tax rate on energy is relatively low (183.3 EUR per tonnes of oil equivalent, TOE) compared to the EU average (222.8 EUR/TOE). The OECD[[99]](#footnote-99) recommends as well financing a reduction of labour tax wedge by broadening the tax base and increases in consumption, environmental and recurrent property taxes.

In 2015, Austria enacted a comprehensive reform of the country's tax system mainly to reduce tax wedge on labour. But it did not use the opportunity to overhaul its environmental taxes in order to achieve environmental objectives. The only environment related measure was the increase of the taxable income from the private use of company cars from 1.5% to 2% of the total acquisition cost of the car, and the right to deduct tax for CO2 emission free cars was introduced.

No measures were taken to reduce environmental harmful subsidies. The different tax treatment of diesel and gasoline[[100]](#footnote-100) for road use is from the environmental point of view unjustified. Diesel is taxed at a lower rate (both in terms of carbon and energy content), although it emits more air pollutants.

In addition, recent data[[101]](#footnote-101) show that Austria confers tax advantages on company cars that could stimulate the excessive use of fossil fuels and undermine the EU energy, climate and environmental policies. This preferential tax treatment for company cars leads to estimated revenue losses of EUR 558 million.

**Green Public Procurement**

The EU green public procurement policies encourage Member States to take further steps to reach the target of applying green procurement criteria to at least 50% of public tenders.

Green Public Procurement (GPP) is a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life-cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

The purchasing power of public procurement in the EU equals to approximately 14% of GDP[[102]](#footnote-102). A substantial part of this money is spent on sectors with high environmental impact such as construction or transport, so GPP can help to significantly lower the impact of public spending and foster sustainable innovative businesses. The Commission has proposed EU GPP criteria[[103]](#footnote-103).

In Austria, a national action plan (NAP) for GPP, named *Aktionsplan* [*nachhaltige öffentliche Beschaffung*](http://www.nachhaltigebeschaffung.at/)*[[104]](#footnote-104)*, was adopted by the Council of Ministers in July 2010. It determines that the Federal Procurement Agency, per instruction of the Ministry of Finance, must include the national green public procurement requirements for 14 products (textiles products and leasing, transport IT equipment, cleaning products and services, furniture, food and catering services, indoor lighting, energy-using appliances, infrastructure, construction, electricity, gardening products and services, office supplies, paper, event management) for which GPP criteria were established[[105]](#footnote-105).

In addition, the provincial governments of Austria have passed a resolution in 2016 in relation to the GPP criteria of national action plan as the basis of minimum requirements for all municipalities and provinces (recommendation). In the provinces of Vorarlberg, Tyrol and Lower Austria local public procurers are provided with a particular procurement service to bundle procurements and foster sustainability (Nachhaltiges Beschaffungsservice).

To exchange experience of procurement officers with GPP on the different governmental levels (federal, regional and local level) a specific platform including a help-desk[[106]](#footnote-106) has been established.

A 2011-study states that the share of Austrian authorities that included GPP requirements in between 50% and 100% of their contracts was estimated between 10 and 20%[[107]](#footnote-107).

According to a 2012-survey, Austrian authorities included at least one of the EU core green criteria in 73% of the contracts and 38% of the contracts included all the relevant EU core green criteria[[108]](#footnote-108).

**Investments: the contribution of EU funds**

European Structural and Investment Funds Regulations provide that Member States promote environment and climate objectives in their funding strategies and programmes for economic, social and territorial cohesion, rural development and maritime policy, and reinforce the capacity of implementing bodies to deliver cost-effective and sustainable investments in these areas.

Making good use of the European Structural and Investment Funds (ESIF)[[109]](#footnote-109) is essential to achieve the environmental goals and integrate these into other policy areas. Other instruments such as the Horizon 2020, the LIFE programme and European Fund for Strategic Investment[[110]](#footnote-110) (EFSI) may also support implementation and spread off best practice.

Austria benefits, through three national programmes and a common regional programme, from European Structural and Investment Funds (ESIF) funding of EUR 4.9 billion over the period 2014-2020[[111]](#footnote-111).

EUR 536.3 m (10.9%) is coming from the European Fund for Regional Development (ERDF), EUR 3938.0 m (80.0%) from the European Agricultural Fund for Rural Development (EAFRD), EUR 7.0 m (0.1%) from the European Maritime and Fisheries Fund (EMFF) and EUR 442.1 m (9.0%) from the European Social Fund (ESF).

In total, EUR 1297.7 m are dedicated to the Thematic objective (TO) 6 *Environment Protection and Resource efficiency*, EUR 1290.7 m through the EAFRD programme, EUR 7.0 m through the ERDF programmes. In addition, EUR 206.5 m is foreseen for TO4 *Low Carbon Economy* (EAFRD and ERDF) and EUR 1289.8 m for TO5 *Climate Change Adoption and Risk Prevention* (EAFRD only).

This funding includes support for sustainable urban development (Vienna and Upper Austria) and aims at solving use conflicts in cities and urban areas. Measures like CO2 reduction strategies, sustainable mobility strategies, integrated sustainable development and efficient use of resources will be supported. In Vienna the Responsible River Modelling Centre (research in the area of energy, flood protection and ecology) will be funded. Theses allocations amount to EUR 27.2 million

It is too early to draw meaningful conclusions as regards the use and results of ESIF funds for the period 2014-2020, as the relevant operational programmes are still in an early stage of their implementation.

Figure 12 depicts the 2014-2020 EU Structural and Investment Funds budget allocation for Austria.

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| **Figure 12: European Structural and Investment Funds 2014-2020: Budget Austria by theme, EUR billion[[112]](#footnote-112)** |
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With regard to the integration of environmental concerns into the **Common Agricultural Policy** (CAP), the two key areas for Austria (as for all Member States) are, first, using Rural Development funds to pay for environmental land management and other environmental measures, while avoiding financing measures which could damage the environment; and secondly, ensuring an effective implementation of the first pillar of the CAP with regard to cross compliance and 1st pillar 'greening'.

The approved National Rural Development Programme (NRP) amounts overall to EUR 3938.0 m. The planned spending on the ecosystem priority, priority 4 is EUR 2490.9 m, which represents 63.3% of the total EU budget. EUR 1065.1 m, 27 % is dedicated to agri-environment-climate measures. In addition, EUR 400.7 m, that is 10.2 %, is dedicated to organic farming measures alone, which is also is part of the Austrian agri-environmental-programme. Furthermore, EUR 874.4 m, from the total NRP budget, is dedicated to payments to areas facing natural or other specific constraints. Thus, the NRP allocates a very large part of the total budget to the enhancement of natural resources and the environment. Although it is welcomed that the programme foresees that up to about 80% of the agricultural area of the country will benefit from agro-environment measures, Austria has elaborated and implemented further actions to improve the design and effectiveness of the environmental measures in practice (including more attention to training, advice and cooperation). Austria should continue this approach aimed at creating the best environmental value for money in the implementation stage of the NRP.

The Direct Payment envelope of Austria for the period 2015-2020 is EUR 3.46 bn, 30 % of which (1.04 bn) being allocated to greening practices beneficial for the environment. An environmentally ambitious implementation of 1st pillar greening would clearly help to improve the environmental situation in areas not covered by rural development, including intensive area, and if appropriate Austria could review its implementation of this.

The European Fund for Strategic Investments (EFSI) will help financially to construct and operate three wind farms[[113]](#footnote-113) in Austria.

**5. Effective governance and knowledge**

SDG 16 aims at providing access to justice and building effective, accountable and inclusive institutions at all levels. SDG 17 aims at better implementation, improving policy coordination and policy coherence, stimulating science, technology and innovation, establishing partnerships and developing measurements of progress.

Effective governance of EU environmental legislation and policies requires having an appropriate institutional framework, policy coherence and coordination, applying legal and non-legal instruments, engaging with non-governmental stakeholders, and having adequate levels of knowledge and skills[[114]](#footnote-114). Successful implementation depends, to a large extent, on central, regional and local government fulfilling key legislative and administrative tasks, notably adoption of sound implementing legislation, co-ordinated action to meet environmental objectives and correct decision-making on matters such as industrial permits. Beyond fulfilment of these tasks, government must intervene to ensure day-to-day compliance by economic operators, utilities and individuals ("compliance assurance"). Civil society also has a role to play, including through legal action. To underpin the roles of all actors, it is crucial to collect and share knowledge and evidence on the state of the environment and on environmental pressures, drivers and impacts.

Equally, effective governance of EU environmental legislation and policies benefits from a dialogue within Member States and between Member States and the Commission on whether the current EU environmental legislation is fit for purpose. Legislation can only be properly implemented when it takes into account experiences at Member State level with putting EU commitments into effect. The Make it Work initiative, a Member State driven project, established in 2014, organizes a discussion on how the clarity, coherence and structure of EU environmental legislation can be improved without lowering existing protection standards.

**Effective governance within central, regional and local government**

Those involved in implementing environment legislation at Union, national, regional and local levels need to be equipped with the knowledge, tools and capacity to improve the delivery of benefits from that legislation, and the governance of the enforcement process.

**Capacity to implement rules**

It is crucial that federal, regional and local administrations have the necessary capacities and skills and training to carry out their own tasks and co-operate and co-ordinate effectively with each other, within a system of multi-level governance.

The 2013 European Quality of Government Index puts Austria in 6th place out of the 28 Member States[[115]](#footnote-115).

Compliance performance in the field of environment is good (with relatively low number of cases and complaints) and corresponds to the overall very good state of environment (see above). Challenges remain in the field of nature, water and governance.

As to nature there are still some deficiencies concerning establishing the Natura 2000 network and designation of SPAs and bird hunting practices in some Länder raise concerns in terms of compatibility with the Habitats Directive. Infrastructure projects put pressure on both nature protection and water: there are a number of cases and complaints regarding hydropower development rising non-compliance with either the Habitats or Water Framework Directive. Apart from EIA and IPPC procedures access to justice provisions are still deficient in Austria, which has recently been confirmed by the Court of Justice in relation to screening of EIA which was remedied by an amendment to the EIA Act in early 2016. Two more infringement cases are ongoing in this area. The situation on air pollution has generally improved and the case on PM10 pollution has been closed. Yet NO2 pollution represents a challenge in cities due to emissions of diesel cars and an infringement procedure is likely to follow soon.

In some of the environmental cases where individuals or NGOs have gained access before the national courts over the past years, the Austrian judges referred several requests for preliminary rulings to the Court of Justice of the EU. This represented a valuable contribution to the development of EU environment law, since preliminary rulings enable the Court of Justice to give a coherent interpretation of the EU law.

Two working groups at expert level have been established in order to discuss legal possibilities for improvement.

**Coordination and integration**

In 2002, the *Austrian Strategy Sustainable Development[[116]](#footnote-116)* was adopted as a government level concept that sets the points for a policy of sustainability at national level based on a long-term orientation and defined binding framework conditions. This national strategy was, in 2010, complemented by common approach by the Federal and Länder government, the *Österreichische Strategie Nachhaltige Entwicklung" (ÖSTRAT[[117]](#footnote-117))*. It provides a common framework for the different political levels and names the main topics for actions (e.g. preserving the natural environment, high level of social security, shaping globalisation environmentally and socially sustainable). Different committees and working groups are in charge of coordinating the different initiatives, informing the public, and the further development of the strategy.

Impact assessments are important tools to ensure environmental integration in all government policies[[118]](#footnote-118). The Commission encourages the streamlining of the environmental assessments to avoid overlaps in environmental assessments and accelerate decision-making, without compromising the quality of the environmental assessment procedure. The Commission has issued a guidance document in 2016[[119]](#footnote-119) regarding the setting up of coordinated and/or joint procedures that are simultaneously subject to assessments under the EIA Directive, Habitats Directive, Water Framework Directive, and the Industrial Emissions Directive.

**Compliance assurance**

EU law generally and specific provisions on inspections, other checks, penalties and environmental liability help lay the basis for the systems Member States need to have in place to secure compliance with EU environmental rules.

Public authorities help ensure accountability of duty-holders by monitoring and promoting compliance and by taking credible follow-up action (i.e. enforcement) when breaches occur or liabilities arise. Compliance monitoring can be done both on the initiative of authorities themselves and in response to citizen complaints. It can involve using various kinds of checks, including inspections for permitted activities, surveillance for possible illegal activities, investigations for crimes and audits for systemic weaknesses. Similarly, there is a range of means to promote compliance, including awareness-raising campaigns and use of guidance documents and online information tools. Follow-up to breaches and liabilities can include administrative action (e.g. withdrawal of a permit), use of criminal law[[120]](#footnote-120) and action under liability law (e.g. required remediation after damage from an accident using liability rules) and contractual law (e.g. measures to require compliance with nature conservation contracts). Taken together, all of these interventions represent "compliance assurance" as shown in Figure 13.

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| **Figure 13: Environmental compliance assurance** |
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Best practice has moved towards a risk-based approach at strategic and operational levels in which the best mix of compliance monitoring, promotion and enforcement is directed at the most serious problems. Best practice also recognises the need for coordination and cooperation between different authorities to ensure consistency, avoid duplication of work and reduce administrative burden. Active participation in established pan-European networks of inspectors, police, prosecutors and judges, such as *IMPEL[[121]](#footnote-121), EUFJE[[122]](#footnote-122), ENPE[[123]](#footnote-123) and EnviCrimeNet[[124]](#footnote-124)*, is a valuable tool for sharing experience and good practices.

Currently, there exist a number of sectoral obligations on inspections and the EU directive on environmental liability (ELD) [[125]](#footnote-125) provides a means of ensuring that the "polluter-pays principle" is applied when there are accidents and incidents that harm the environment. There is also publically available information giving insights into existing strengths and weaknesses in each Member State.

For each Member State, the following were therefore reviewed: use of risk-based compliance assurance; coordination and co-operation between authorities and participation in pan-European networks; and key aspects of implementation of the ELD based on the Commission's recently published implementation report and REFIT evaluation.[[126]](#footnote-126)

Austria has made efforts to improve its system of inspections of industrial facilities. The Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management has developed a national inspection plan which includes some priority setting elements and in its annex a comprehensive set of criteria for risk-assessment based on the IMPEL IRAM inspections planning tool[[127]](#footnote-127). It is the basis for inspection programs developed at the Länder level[[128]](#footnote-128).

Up-to-date information is lacking and would be valuable in relation to the following:

* data-collection arrangements to track the use and effectiveness of different compliance assurance interventions[[129]](#footnote-129);
* the extent to which risk-based methods are used to direct compliance assurance at the strategic level and in relation to critical activities outside of industrial installations, especially specific problem-areas highlighted elsewhere in this Country Report, i.e. the threats to protected habitat types and species, poor air quality and the pressures on water quality from diffuse sources of pollution;
* how competent authorities in Austria ensure coordination and coordination of compliance assurance at the different administrative levels[[130]](#footnote-130);
* how competent authorities in Austria ensure a targeted and proportionate response to different types of non-compliant behaviour, in particular in relation to serious breaches detected.

Austria participates in IMPEL activities but is not very active within the other European networks of environmental professionals.

For the period 2007-2013, Austria did not report any case of environmental damage remediation pursuant to the Environmental Liability Directive, although a few cases where the application has been considered but was finally dismissed in court proceedings or otherwise have been drawn to the Commission's attention. There is no mandatory financial security (to pay for remediation where an operator cannot). The insurance sector provides coverage for environmental impairment liability (EIL), supplementing the general third party liability insurance (GTPL), a standard product used by all bigger enterprises. However, it is not evident that EIL is taken up.

Suggested action

* Improve transparency on the organisation and functioning of compliance assurance and on how significant risks are addressed, as outlined above.
* Encourage greater participation of competent authorities in environmental compliance networks.
* Step up efforts in the implementation of the Environmental Liability Directive (ELD) with proactive initiatives, in particular by setting up a national register of ELD incidents and drafting national guidance.

**Public participation and access to justice**

The Aarhus Convention, related EU legislation on public participation and environmental impact assessment, and the case-law of the Court of Justice require that citizens and their associations should be able to participate in decision-making on projects and plans and should enjoy effective environmental access to justice.

Citizens can more effectively protect the environment if they can rely on the three "pillars" of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters ("theAarhus Convention"). Public participation in the administrative decision making process is an important element to ensure that the authority takes its decision on the best possible basis.

Access to justice in environmental matters is a set of guarantees that allows citizens and their associations to challenge acts or omissions of the public administration before a court. It is a tool for decentralised implementation of EU environmental law.

For each Member State, two crucial elements for effective access to justice have been systematically reviewed: the legal standing for the public, including NGOs and the extent to which prohibitive costs represent a barrier.

In general, the existing rules and provisions in the Austrian law concerning access to administrative appeal and to judicial review are predictable and transparent. However, environmental NGOs still do not have legal standing in many of the environmental sectors. The costs of administrative court procedure, however, are not considered as being prohibitively high[[131]](#footnote-131).

Suggested action

* Take the necessary measures to ensure standing of environmental NGOs to challenge acts or omissions of a public authority in all sectoral EU environmental laws, in full compliance with EU law as well as the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in environmental matters (Aarhus Convention).

**Access to information, knowledge and evidence**

The Aarhus Convention and related EU legislation on access to information and the sharing of spatial data require that the public has access to clear information on the environment, including on how Union environmental law is being implemented.

It is of crucial importance to public authorities, the public and business that environmental information is shared in an efficient and effective way. This covers reporting by businesses and public authorities and active dissemination to the public, increasingly through electronic means.

The Aarhus Convention[[132]](#footnote-132), the Access to Environmental Information Directive[[133]](#footnote-133) and the INSPIRE Directive[[134]](#footnote-134) together create a legal foundation for the sharing of environmental information between public authorities and with the public. They also represent the green part of the ongoing EU e-Government Action Plan[[135]](#footnote-135). The first two instruments create obligations to provide information to the public, both on request and actively. The INSPIRE Directive is a pioneering instrument for electronic data-sharing between public authorities who can vary in their data-sharing policies, e.g. on whether access to data is for free. The INSPIRE Directive sets up a geoportal which indicates the level of shared spatial data in each Member State – i.e. data related to specific locations, such as air quality monitoring data. Amongst other benefits it facilitates the public authorities' reporting obligations.

For each Member State, the accessibility of environmental data (based on what the INSPIRE Directive envisages) as well as data-sharing policies ('open data') have been systematically reviewed[[136]](#footnote-136).

Austria's performance on the implementation of the INSPIRE Directive as enabling framework to actively disseminate environmental information to the public is good. Austria has indicated in the 3-yearly INSPIRE implementation report[[137]](#footnote-137) that the necessary data-sharing policies allowing access and use of spatial data by national administrations, other Member States' administrations and EU institutions without procedural obstacles are available and implemented. Austria has no common data-sharing policies for all administrative levels in the federated state, resulting in a differentiated landscape of terms for access and use ranging from open data policies to policies aiming at recovering data acquisition and management costs.

Following the assessments of monitoring reports[[138]](#footnote-138) issued by Austria and the spatial information that Austria has published on the INSPIRE geoportal[[139]](#footnote-139) not all spatial information needed for the evaluation and implementation of EU environmental law has been made available or is accessible. However, at least the majority of the data required to be made available under the existing reporting and monitoring regulations of EU environmental law has been published on the INSPIRE geoportal.

Suggested action

* Critically review the effectiveness of its data policies and amend them, taking 'best practices' into consideration.
* Identify and document all spatial data sets required for the implementation of environmental law, and make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services foreseen in the INSPIRE Directive.

1. Communication "Delivering the benefits of EU environmental policies through a regular Environmental Implementation Review" ([COM/2016/ 316 final](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2016%3A316%3AFIN)). [↑](#footnote-ref-1)
2. Decision No. 1386/2013/EU of 20 November 2013 on a General Union Environmental Action Programme to 2020 "[Living well, within the limits of our planet](http://ec.europa.eu/environment/action-programme/)". [↑](#footnote-ref-2)
3. United Nations, 2015. [The Sustainable Development Goals](http://www.undp.org/content/undp/en/home/sdgoverview/post-2015-development-agenda.html) [↑](#footnote-ref-3)
4. This EIR report does not cover climate change, chemicals and energy. [↑](#footnote-ref-4)
5. European Commission, 2015. [Proposed Circular Economy Package](http://europa.eu/rapid/press-release_IP-15-6203_en.htm) [↑](#footnote-ref-5)
6. Eurostat, [Resource productivity](http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdpc100&plugin=1), accessed October 2016 [↑](#footnote-ref-6)
7. Eurostat, [Resource productivity](http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdpc100&plugin=1), accessed October 2016 [↑](#footnote-ref-7)
8. [Güssing Renwable Energy Centre](http://www.cep-rec.eu/project-partners/european-center-for-renewable-energy-guessing-ltd-a/) [↑](#footnote-ref-8)
9. [Bioregion Mühlviertel](http://www.bioregion-muehlviertel.at) [↑](#footnote-ref-9)
10. [Energy Vision Murau](http://www.energievision.at)  [↑](#footnote-ref-10)
11. Eurostat, [Employment in the environmental goods and services sector](http://ec.europa.eu/eurostat/web/environment/environmental-goods-and-services-sector/database), accessed June 2016 [↑](#footnote-ref-11)
12. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, 2010. [Masterplan "green jobs"](https://www.bmlfuw.gv.at/greentec/green-jobs/masterplan/masterplan_greenjobs.html) [↑](#footnote-ref-12)
13. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft: [Karriereportal green jobs](http://www.green-jobs.at/): [↑](#footnote-ref-13)
14. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft: [klimaaktiv Bildungskoordination](http://www.klimaaktiv.at/bildung.html) [↑](#footnote-ref-14)
15. Martin Hirschnitz-Garbers, Mandy Hinzmann, Emma Watkins, Patrick ten Brink, Leonidas Milios and Sebastien Soleille, 2016. [A framework for Member States to support business in improving its resource efficiency](http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/business/RE_in_Business_Final_Report_111115.pdf), 2015, p. 59 [↑](#footnote-ref-15)
16. European Commission, 2015. [Flash 426 Eurobarometer](https://data.europa.eu/euodp/en/data/dataset/S2088_426_ENG) "SMEs, resource efficiency and green markets" [↑](#footnote-ref-16)
17. European Commission, 2015. [Flash 426 Eurobarometer](https://data.europa.eu/euodp/en/data/dataset/S2088_426_ENG) "SMEs, resource efficiency and green markets" [↑](#footnote-ref-17)
18. [Eco-innovation Observatory](https://ec.europa.eu/environment/ecoap/scoreboard_en): Eco-Innovation scoreboard 2015 [↑](#footnote-ref-18)
19. IHS, 2014. [Das Potenzial von Öko-Innovationen für den Standort Österreich](http://www.bmwfw.gv.at/Presse/AktuellePresseMeldungen/Documents/2014%2002%2010%20Projektbericht_%C3%96ko-Innovationen_IHSWien_FINAL.PDF). Institut für Höhere Studien (IHS), Wien. [↑](#footnote-ref-19)
20. Waste Management Plans/Waste Prevention Programmes [↑](#footnote-ref-20)
21. Eurostat, [Municipal waste and treatment, by type of treatment method,](http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdpc240) accessed October 2016 [↑](#footnote-ref-21)
22. Municipal waste consists of waste collected by or on behalf of municipal authorities, or directly by the private sector (business or private non-profit institutions) not on behalf of municipalities. [↑](#footnote-ref-22)
23. Member States may choose a different method than the one used by ESTAT (and referred to in this report) to calculate their recycling rates and track compliance with the 2020 target of 50% recycling of municipal waste. [↑](#footnote-ref-23)
24. Eurostat, [Recycling rate of municipal waste](http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=t2020_rt120&plugin=1), accessed October 2016 [↑](#footnote-ref-24)
25. European Union, Proposal for a Directive on the landfill of waste, [COM/2015/0594](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2015:594:FIN) & European Union, Proposal for a Directive amending Directive 2008/98/EC on waste, [COM/2015/0595](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015PC0595) [↑](#footnote-ref-25)
26. European Commission, Roadmap to a Resource Efficient Europe, [COM/2011/571](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0571), which outlines how we can transform Europe's economy into a sustainable one by 2050. [↑](#footnote-ref-26)
27. Sites of Community Importance (SCIs) are designated pursuant to the Habitats Directive whereas Special Areas of Protection (SPAs) are designated pursuant to the Birds Directive; figures of coverage do not add up due to the fact that some SCIs and SPAs overlap. Special Areas of Conservation (SACs) means a SCI designated by the Member States. [↑](#footnote-ref-27)
28. For each Member State, the Commission assesses whether the species and habitat types on Annexes I and II of the Habitats Directive are sufficiently represented by the sites designated to date. This is expressed as a percentage of species and habitats for which further areas need to be designated in order to complete the network in that country. [The current data](http://ec.europa.eu/environment/nature/info/pubs/docs/nat2000newsl/nat40_en.pdf), which were assessed in 2014-2015, reflect the situation up until December 2013. [↑](#footnote-ref-28)
29. The percentages in Figure 5 refer to percentages of the total number of assessments (one assessment covering 1 species or 1 habitat in a given biographical region with the Member State); if a habitat type or a species occurs in more than 1 Biogeographic region within a given Member State, there will be as many individual assessments as there are Biogeographic regions with an occurrence of that species or habitat in this Member State. [↑](#footnote-ref-29)
30. European Commission, internal assessment. [↑](#footnote-ref-30)
31. According to the Austrian Constitution nature protection falls within the competence of the provinces. [↑](#footnote-ref-31)
32. Article 12 of the Birds Directive requires Member States to report about the progress made with the implementation of the Birds Directive. [↑](#footnote-ref-32)
33. The core of the ‘Article 17’ report is the assessment of conservation status of the habitats and species targeted by the Habitats Directive. [↑](#footnote-ref-33)
34. Conservation status is assessed using a standard methodology as being either ‘favourable’, ‘unfavourable-inadequate’ and ‘unfavourable-bad’, based on four parameters as defined in Article 1 of the Habitats Directive. [↑](#footnote-ref-34)
35. Please note that a direct comparison between 2007 and 2013 data is complicated by the fact that Bulgaria and Romania were not covered by the 2007 reporting cycle, that the ‘unknown’ assessments have strongly diminished particularly for species, and that some reported changes are not genuine as they result from improved data / monitoring methods. [↑](#footnote-ref-35)
36. These figures show the percentage of biogeographical assessments in each category of conservation status for habitats and species (one assessment covering 1 species or 1 habitat in a given biographical region with the Member State), respectively. The information is based on Article 17 of the Habitats Directive reporting - national summary of [Austria](https://circabc.europa.eu/sd/a/42724f22-9100-414c-819b-03b8742ad154/AT_20140528.pdf) [↑](#footnote-ref-36)
37. Article 12 of the Birds Directive reporting - national summary of [Austria](https://circabc.europa.eu/sd/a/a0a84532-6706-41ce-bec1-882ed30e1b63/AT_A12NatSum_20141031.pdf) [↑](#footnote-ref-37)
38. Austria: 5th National [Report to the Convention on Biological Diversity](https://www.cbd.int/doc/world/at/at-nr-05-en.pdf) [↑](#footnote-ref-38)
39. FAO [Forest harvesting and environment in Austria](http://www.fao.org/docrep/W3646E/w3646e0b.htm) [↑](#footnote-ref-39)
40. Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends. [↑](#footnote-ref-40)
41. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, 2014. [Biodiversitäts-Strategie Österreich 2020+](https://www.bmlfuw.gv.at/umwelt/natur-artenschutz/biologische_vielfalt/biodivstrat_2020plus.html) [↑](#footnote-ref-41)
42. [Bundesministerium für Land- und Forstwirtschaft, Wasser und Umweltwirtschaft, 2013. Zustand und Bedeutung der biologischen Vielfalt in Österreich](https://www.bmlfuw.gv.at/land/laendl_entwicklung/Online-Fachzeitschrift-Laendlicher-Raum/archiv/2014/Biodiversitaet.html). [↑](#footnote-ref-42)
43. Austria: 5th National [Report to the Convention on Biological Diversity](https://www.cbd.int/doc/world/at/at-nr-05-en.pdf): [↑](#footnote-ref-43)
44. Peterseil, 2014. Karte der Habitattypen in Österreich [↑](#footnote-ref-44)
45. Götzl, M. et al., 2011. Ökosystemleistungen und Landwirtschaft. Erstellung eines Inventars für Österreich. [↑](#footnote-ref-45)
46. Götzl, M. et al, 2015. Ökosystemleistungen des Waldes. Erstellung eines Inventars für Österreich [↑](#footnote-ref-46)
47. Getzner et al., 2011.: Fließstrecken der Mur – Ermittlung der Ökosystemleistungen – Endbericht. [↑](#footnote-ref-47)
48. Schwaiger, E. Berthold et al, 2015. Wirtschaftliche Bedeutung von Ökosystemleistungen. Monetäre Bewertung: Risiken und Potenziale. Umweltbundesamt Report [↑](#footnote-ref-48)
49. Österreichische Bundesforste, 2016: Werte der Natur – Ermittlung, Bewertung, Ausblick. Fachjournal der NaturraummanagerInnen, Natur. Raum .Management, Nr. 28. [↑](#footnote-ref-49)
50. European Union, Green Infrastructure — Enhancing Europe’s Natural Capital, [COM/2013/0249](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0249) [↑](#footnote-ref-50)
51. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, 2014. [Biodiversitäts-Strategie Österreich 2020+](https://www.bmlfuw.gv.at/umwelt/natur-artenschutz/biologische_vielfalt/biodivstrat_2020plus.html) [↑](#footnote-ref-51)
52. [5th National Report to the CBD](http://biodiversity.europa.eu/links/member-states-cbd-reports/austria-fifth-national-report-to-the-cbd) [↑](#footnote-ref-52)
53. The [European Green Belt](http://www.europeangreenbelt.org/) is a cross-border initiative to protect, restore and connect high-value natural and cultural landscapes along the line of the former Iron Curtain in Europe. [↑](#footnote-ref-53)
54. Environment Agency Austria, [Flächeninanspruchnahme](http://www.umweltbundesamt.at/umweltsituation/raumordnung/rp_flaecheninanspruchnahme/) [↑](#footnote-ref-54)
55. European Environment Agency [Draft results of CORINE Land Cover (CLC) inventory 2012](http://land.copernicus.eu/pan-european/corine-land-cover/lcc-2006-2012/view); mean annual land take 2006-12 as a % of 2006 artificial land. [↑](#footnote-ref-55)
56. Eurostat, [Soil water erosion rate](http://ec.europa.eu/eurostat/statistics-explained/index.php/Agri-environmental_indicator_-_soil_erosion), Figure 2, accessed November 2016 [↑](#footnote-ref-56)
57. wpa, 2009: Abschätzung des Bodenabtrags in Österreich und Integration der Daten in die INVEKOS-Datenbank. Beschreibung der Berechnungsmethode und Ergebnisse für die Jahre 2007 und 2008. wpa Beratende Ingenieure GmbH, Wien; and: wpa, 2010: Abschätzung des Bodenabtrags in Österreich. Ergänzende Berechnungen für das Jahr 2009. wpa Beratende Ingenieure GmbH, Wien [↑](#footnote-ref-57)
58. AGES, 2011: [Bodenschutz durch umweltgerechte Landwirtschaft](http://www.ages.at/fileadmin/AGES2015/Service/Landwirtschaft/Boden_Datein/Broschueren/AGES_Bodenbroschuere_Web.pdf), p. 9 [↑](#footnote-ref-58)
59. European Environment Agency. Land cover 2012 and changes country analysis [publication forthcoming] [↑](#footnote-ref-59)
60. European Commission, 2016. [Air Quality Standards](http://ec.europa.eu/environment/air/quality/standards.htm) [↑](#footnote-ref-60)
61. See [EIONET Central Data Repository](http://cdr.eionet.europa.eu/) and [Air pollutant emissions data viewer (NEC Directive)](http://www.eea.europa.eu/data-and-maps/data/data-viewers/emissions-nec-directive-viewer) [↑](#footnote-ref-61)
62. The current national emission ceilings apply since 2010 ([Directive 2001/81/EC](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32001L0081)); revised ceilings for 2020 and 2030 have been set by [Directive (EU) 2016/2284](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.344.01.0001.01.ENG&toc=OJ:L:2016:344:TOC) on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC. [↑](#footnote-ref-62)
63. Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many human sources, including both combustion and non-combustion sources. [↑](#footnote-ref-63)
64. Low level ozone is produced by photochemical action on pollution and it is also a greenhouse gas. [↑](#footnote-ref-64)
65. NOx is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NOx is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO2). [↑](#footnote-ref-65)
66. European Environment Agency, 2016. [Air Quality in Europe – 2016 Report](http://www.eea.europa.eu/publications/air-quality-in-europe-2016). (Table 10.2, please see details in this report as regards the underpinning methodology). [↑](#footnote-ref-66)
67. Based on European Environment Agency, 2016 [Air Quality in Europe – 2016 Report](http://www.eea.europa.eu/publications/air-quality-in-europe-2016). (Figures 4.1, 5.1 and 6.1) [↑](#footnote-ref-67)
68. See [The EEA/Eionet Air Quality Portal](http://www.eionet.europa.eu/aqportal) and the related Central Data Repository [↑](#footnote-ref-68)
69. These figures are based on the [Impact Assessment](http://ec.europa.eu/environment/archives/air/pdf/Impact_assessment_en.pdf) for the European Commission Integrated Clean Air Package (2013). [↑](#footnote-ref-69)
70. Under the provisions of the revised National Emission Ceilings Directive Member States now may apply for emission inventory adjustments. Pending evaluation of any adjustment application, Member States should keep emissions under close control with a view to further reductions. [↑](#footnote-ref-70)
71. WHO/JRC, 2011, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephalopoulos, S. (eds), [World Health Organization, Regional Office for Europe](http://www.euro.who.int/en/media-centre/sections/press-releases/2011/03/new-evidence-from-who-on-health-effects-of-traffic-related-noise-in-europe), Copenhagen, Denmark [↑](#footnote-ref-71)
72. The Noise Directive requires Member States to prepare and publish, every 5 years, noise maps and noise management action plans for agglomerations with more than 100,000 inhabitants, and for major roads, railways and airports. [↑](#footnote-ref-72)
73. This includes the [Bathing Waters Directive (2006/7/EC);](http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1481623908600&uri=CELEX:32006L0007) the [Urban Waste Water Treatment Directive (91/271/EEC)](http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31991L0271) concerning discharges of municipal and some industrial waste waters; the [Drinking Water Directive (98/83/EC)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31998L0083) concerning potable water quality; the [Water Framework Directive (2000/60/EC)](http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1481624135097&uri=CELEX:32000L0060) concerning water resources management; the [Nitrates Directive (91/676/EEC)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31991L0676) and the [Floods Directive (2007/60/EC)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32007L0060) [↑](#footnote-ref-73)
74. Good ecological status is defined in the Water Framework Directive referring to the quality of the biological community, the hydrological characteristics and the chemical characteristics. [↑](#footnote-ref-74)
75. Many European river basins and waters have been altered by human activities, such as land drainage, dredging, flood protection, water abstraction and inter-basin water transfer, building of dams to create reservoirs and the digging of new canals for navigation purposes. [↑](#footnote-ref-75)
76. For groundwater, a precautionary approach has been taken that comprises a prohibition on direct discharges to groundwater, and a requirement to monitor groundwater bodies. [↑](#footnote-ref-76)
77. Good chemical status is defined in the Water Framework Directive referring to compliance with all the quality standards established for chemical substances at European level. [↑](#footnote-ref-77)
78. According to the AT authorities the quality has improved. [↑](#footnote-ref-78)
79. More information on the implementation status and more specific recommendations can be found at European Commission, [Water Framework Directive Implementation Reports](http://ec.europa.eu/environment/water/water-framework/impl_reports.htm) [↑](#footnote-ref-79)
80. Diffuse pollution comes from widespread activities with no one discrete source, e.g. acid rain, pesticides, urban run-off, etc. [↑](#footnote-ref-80)
81. Commission Staff working Document accompanying the on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2008-2011, [SWD/2013/0405](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013SC0405). [↑](#footnote-ref-81)
82. [Commission's Synthesis Report on the Quality of Drinking Water in the Union](http://ec.europa.eu/environment/water/water-drink/reporting_en.html) examining Member States' reports for the 2011-2013 period, foreseen under Article 13(5) of Directive 98/83/EC; COM(2016)666 [↑](#footnote-ref-82)
83. European Environment Agency, 2016. [European bathing water quality in 2015](http://www.eea.europa.eu/publications/european-bathing-water-quality-2015) p. 26 [↑](#footnote-ref-83)
84. European Environment Agency, [State of bathing water](http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water), 2016 [↑](#footnote-ref-84)
85. European Commission, Eighth Report on the Implementation Status and the Programmes for Implementation of the Urban Waste Water Directive [(COM (2016)105 final)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0105) and Commission Staff Working Document accompanying the report [(SWD(2016)45 final](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016SC0045)). [↑](#footnote-ref-85)
86. Commission Staff Working Document, 2015. [Report on the progress in implementation of the Floods Directive](http://ec.europa.eu/environment/water/water-framework/pdf/4th_report/CSWD%20Report%20on%20the%20FD%20.pdf), page 27 [↑](#footnote-ref-86)
87. RPA, 2014. [Study on Economic and Social Benefits of Environmental Protection and Resource Efficiency Related to the European Semester](http://ec.europa.eu/environment/integration/green_semester/pdf/RPA%20Final%20Report-annexes.pdf), study for the European Commission. [↑](#footnote-ref-87)
88. European Environment Agency, [Urban environment](http://www.eea.europa.eu/themes/urban) [↑](#footnote-ref-88)
89. <http://urbanagendaforthe.eu/> [↑](#footnote-ref-89)
90. The Commission is developing an [Urban Benchmarking and Monitoring ('UBaM') tool](http://ec.europa.eu/environment/urban/tool.htm) to be launched in 2017. Best practices emerge and these will be better disseminated via the app featuring the UBaM tool, and increasingly via e.g. EUROCITIES, ICLEI, CEMR, Committee of the Regions, Covenant of Mayors and others. [↑](#footnote-ref-90)
91. Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity. [↑](#footnote-ref-91)
92. Eurostat, [Environmental tax revenues](http://ec.europa.eu/eurostat/en/web/products-datasets/-/T2020_RT320), accessed June 2016 [↑](#footnote-ref-92)
93. excluding imputed social contributions [↑](#footnote-ref-93)
94. Eunomia Research and Consulting, IEEP, Aarhus University, ENT, 2016. [Study on Assessing the Environmental Fiscal Reform Potential for the EU28](http://ec.europa.eu/environment/integration/green_semester/pdf/Eunomia%20EFR%20Final%20Report%20MAIN%20REPORT.pdf). N.B. National governments are responsible for setting tax rates within the EU Single Market rules and this report is not suggesting concrete changes as to the level of environmental taxation. It merely presents the findings of the 2016 study by Eunomia *et al* on the potential benefits various environmental taxes could bring. It is then for the national authorities to assess this study and their concrete impacts in the national context. A first step in this respect, already done by a number of Member States, is to set up expert groups to assess these and make specific proposals. [↑](#footnote-ref-94)
95. The good practice scenario means benchmarking to a successful taxation practice in another Member State. [↑](#footnote-ref-95)
96. Eunomia Research and Consulting, IIEP, Aarhus University, ENT, 2016. [Study on Assessing the Environmental Fiscal Reform Potential for the EU28](http://ec.europa.eu/environment/integration/green_semester/pdf/Eunomia%20EFR%20Final%20Report%20MAIN%20REPORT.pdf) [↑](#footnote-ref-96)
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98. European Commission, 2015. [Tax Reforms in EU Member States 2015](http://ec.europa.eu/economy_finance/publications/eeip/pdf/ip008_en.pdf), Institutional Paper 008 Sept. 2015, page 68 [↑](#footnote-ref-98)
99. [↑](#footnote-ref-99)
100. Update by European Commission, 2015 based on Harding M., 2014. [The Diesel Differential: Differences in the Tax Treatment of Gasoline and Diesel for Road Use](http://www.oecd-ilibrary.org/docserver/download/5jz14cd7hk6b.pdf?expires=1467378122&id=id&accname=guest&checksum=AFD304D4C89711ABEED530E1AA7CCD17). OECD Taxation Working Papers, No. 21 [↑](#footnote-ref-100)
101. [Harding M. 2014. Personal Tax Treatment of Company Cars and Commuting Expenses – Estimating the Fiscal and Environmental Costs.](http://www.oecd-ilibrary.org/taxation/personal-tax-treatment-of-company-cars-and-commuting-expenses_5jz14cg1s7vl-en) OECD Taxation Working Papers, No. 20, p.28 [↑](#footnote-ref-101)
102. European Commission, 2015. [Public procurement](http://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/public_procurement/index_en.htm) [↑](#footnote-ref-102)
103. In the Communication “Public procurement for a better environment” [(COM /2008/400)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0400http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0400) the Commission recommended the creation of a process for setting common GPP criteria. The basic concept of GPP relies on having clear, verifiable, justifiable and ambitious environmental criteria for products and services, based on a life-cycle approach and scientific evidence base. [↑](#footnote-ref-103)
104. Bundesregierung Österreich, 2010. [Aktionsplan zur nachhaltigen öffentlichen Beschaffung](http://www.nachhaltigebeschaffung.at/). [↑](#footnote-ref-104)
105. Aktionsplan zur nachhaltigen öffentlichen Beschaffung, [Criteria for different products](http://www.nachhaltigebeschaffung.at/nabe-kriterien-hilfsmittel) [↑](#footnote-ref-105)
106. [National help desk green public procurement](http://www.nachhaltigebeschaffung.at/help-desk) [↑](#footnote-ref-106)
107. Adelphi et al. (2011), “Strategic Use of Public Procurement in Europe” [↑](#footnote-ref-107)
108. CEPS (2012), “Monitoring the Uptake of GPP in the EU” [↑](#footnote-ref-108)
109. ESIF comprises five funds – the European Regional Development Funds (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD), and the European Maritime and Fisheries Fund (EMFF). The ERDF, the CF and the ESF together form the Cohesion Policy funds. [↑](#footnote-ref-109)
110. EIB: [European Fund for Strategic Investments](http://www.eib.org/efsi/) [↑](#footnote-ref-110)
111. European Commission: European Structural and Investment Funds Country Data for [Austria](https://cohesiondata.ec.europa.eu/countries/AT). [↑](#footnote-ref-111)
112. European Commission, [European Structural and Investment Funds Data By Country](https://cohesiondata.ec.europa.eu/countries) [↑](#footnote-ref-112)
113. European Commission, June 2016.The Investment Plan for Europe, [Factsheet Energy](http://ec.europa.eu/priorities/sites/beta-political/files/sector_energy_june2016_en.pdf) [↑](#footnote-ref-113)
114. The Commission has work ongoing to improve the country-specific knowledge about quality and functioning of the administrative systems of Member States. [↑](#footnote-ref-114)
115. <http://ec.europa.eu/regional_policy/sources/docgener/work/2012_02_governance.pdf> [↑](#footnote-ref-115)
116. <https://www.nachhaltigkeit.at/assets/customer/Downloads/Strategie/strategie020709_en.pdf> [↑](#footnote-ref-116)
117. Information on the [ÖSTRAT](https://www.nachhaltigkeit.at/assets/customer/Downloads/Strategie/_STRAT_2010_07_20_Beschluss_20Ministerrat.pdf) [↑](#footnote-ref-117)
118. Article 11 of the TFEU provides that "Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development." [↑](#footnote-ref-118)
119. European Commission, 2016. Commission notice — [Commission guidance document on streamlining environmental assessments conducted under Article 2(3) of the Environmental Impact Assessment Directive](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C:2016:273:TOC) (Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU). [↑](#footnote-ref-119)
120. European Union, [Environmental Crime Directive 2008/99/EC](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008L0099) [↑](#footnote-ref-120)
121. [European Union Network for the Implementation and Enforcement of Environmental Law](http://www.impel.eu) [↑](#footnote-ref-121)
122. [European Union Forum of judges for the environment](http://www.eufje.org) [↑](#footnote-ref-122)
123. [The European Network of Prosecutors for the Environment](http://www.environmentalprosecutors.eu) [↑](#footnote-ref-123)
124. [EnviCrimeNet](http://envicrimenet.com/) [↑](#footnote-ref-124)
125. European Union, [Environmental Liability Directive 2004/35/CE](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32004L0035), p.56 [↑](#footnote-ref-125)
126. [COM(2016)204 final](https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-204-EN-F1-1.PDF) and [COM(2016)121 final](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016SC0121) of 14.4.2016. This highlighted the need for better evidence on how the directive is used in practice; for tools to support its implementation, such as guidance, training and ELD registers; and for financial security to be available in case events or incidents generate remediation costs. [↑](#footnote-ref-126)
127. The plan is published [on the website](https://secure.umweltbundesamt.at/edm_portal/cms.do?get=/portal/informationen/ie-richtlinie-und-ippc-anlagen/Inspektionsplan.main) of the ministry: [↑](#footnote-ref-127)
128. These inspection programs are also published [online:](https://secure.umweltbundesamt.at/edm_portal/cms.do?get=/portal/informationen/ie-richtlinie-und-ippc-anlagen/Programme-L-nder.main) [↑](#footnote-ref-128)
129. OECD has observed that information on inspections, compliance levels, fines, effectiveness and costs of enforcement is incomplete and fragmented, see OECD Environmental Performance Review Austria 2013, p. 59. See also Comparative study of pressures and measures in the major River Basin Management Plans, section Governance, 2012, p. 130, 133 and 159. [↑](#footnote-ref-129)
130. OECD provides examples of some cooperation agreements in Austria but indicates also the need for more extensive use of such instruments, see OECD Environmental Performance Review Austria 2013, p. 58. [↑](#footnote-ref-130)
131. See [study on access to justice in environmental matters in Austria](http://ec.europa.eu/environment/aarhus/access_studies.htm) [↑](#footnote-ref-131)
132. UNECE, 1998. [Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters](http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf) [↑](#footnote-ref-132)
133. European Union, [Directive 2003/4/EC on public access to environmental information](http://eur-lex.europa.eu/legal-content/GA/ALL/?uri=CELEX:32003L0004) [↑](#footnote-ref-133)
134. European Union, [INSPIRE Directive 2007/2/EC](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007L0002:EN:NOT) [↑](#footnote-ref-134)
135. European Union, EU eGovernment Action Plan 2016-2020 - Accelerating the digital transformation of government [COM(2016) 179](https://ec.europa.eu/digital-single-market/en/news/communication-eu-egovernment-action-plan-2016-2020-accelerating-digital-transformation) final [↑](#footnote-ref-135)
136. Upon request by the Commission, most Member States provided an INSPIRE Action Plan addressing implementation issues. These plans are currently being assessed by the Commission. [↑](#footnote-ref-136)
137. European Commission, [INSPIRE reports](http://inspire.ec.europa.eu/index.cfm/pageid/182) [↑](#footnote-ref-137)
138. [[Inspire indicator trends](https://inspire-dashboard.eea.europa.eu/official/#/)](http://inspire.ec.europa.eu/portfolio/inspire-dashboard) [↑](#footnote-ref-138)
139. [Inspire Resources Summary Report](http://inspire-geoportal.ec.europa.eu/resources/INSPIREResourcesReports/resourcesReport_2016-05-09/) [↑](#footnote-ref-139)