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**The EU Environmental Implementation Review
Country Report - PORTUGAL**

Accompanying the document

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

**The EU Environmental Implementation Review: Common Challenges and how to
combine efforts to deliver better results**

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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 legislation¹. 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 Programme² and refer to the 2030 Agenda for Sustainable development and related Sustainable Development Goals (SDGs)³ to the extent to which they reflect the existing obligations and policy objectives of EU environmental law⁴.

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.

¹ Communication "Delivering the benefits of EU environmental policies through a regular Environmental Implementation Review" ([COM/2016/316 final](#))

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](#)".

³ United Nations, 2015. [The Sustainable Development Goals](#)

⁴ This EIR report does not cover climate change, chemicals and energy.

General profile

During the last decades, the implementation of the EU environmental law and policy has contributed to preserve and to improve the environment in Portugal, thanks also to the significant assistance from EU funding. Nevertheless, Portugal still faces considerable challenges in the areas of water and waste management, air quality and nature conservation. Furthermore, environmental implementation and enforcement represent overall a challenge for Portugal.

Main Challenges

The three main challenges with regard to implementation of EU environmental policy and law in Portugal are:

- ❖ Improving waste management and developing the potential of the circular economy.
- ❖ Enhancing the effective protection of the Natura 2000 network.
- ❖ Following up on the implementation of marine strategies to meet a good environmental status of marine waters.

Main Opportunities

Portugal could perform better on topics where there is already a good knowledge base and good practices. This applies in particular to:

- ❖ Using the experience already gained over the past few years to improve compliance with the Air Quality Directive, in particular for NO₂.
- ❖ Improving efficiency, effectiveness and coordination in the public environmental sector implementing recent initiatives such as the Single Environment Permit (SEP) scheme, the Unique Platform for Inspection and Monitoring in the areas of agriculture, sea and environment and the National Network for the Implementation and Enforcement of Environmental Law (IMPEL).
- ❖ Taking advantage of the opportunities for greening the first pillar of the Common Agricultural Policy (CAP) and making further use of the rural development measures under the second pillar.

Points of Excellence

Where Portugal leads in environmental implementation, it could share its innovative approaches more widely among other countries. Good examples are:

- ❖ The creation of a "Commission for Green Tax Reform" in 2014 and the subsequent reform of the Portuguese tax system in 2015 in order to foster environmental taxation.
- ❖ The national strategy "Commitment for Green Growth" adopted by the Portuguese government in 2015.
- ❖ The improvements in the quality of the drinking water supply systems experienced over the last decade.

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 alike⁵.

A number of studies have shown at European level the positive link between environmental performance and job creation⁶.

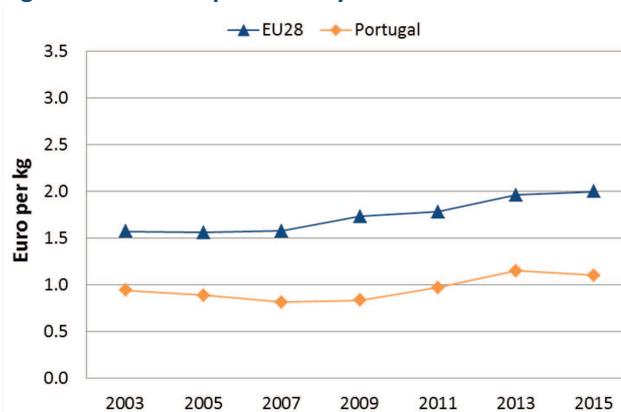
Pressure on material resources is one of the long-term trends affecting job creation and growth in the EU.

In terms of resource productivity (how efficiently the economy uses material resources to produce wealth), Portugal has the 17th place in the EU (according to the resource productivity indicator) with 1.10 EUR/kg (EU average is 2.0 EUR/kg) in 2015⁷.

Figure 1 shows that while the resource productivity has

increased overall since 2007, it is slightly decreasing in 2015 compared to 2014. Therefore, there is clear room for improvement in this field.

Figure 1: Resource productivity 2003-15⁸



From 2013 to 2015 several national plans were revised (waste, water), placing strong emphasis on efficiency and meeting EU targets in the most cost-effective way, and new types of policies were introduced (e.g. Green Taxation Reform). It can be specially highlighted the Green Growth Commitment, a national strategy adopted with the purpose of reorienting the country's economic development which is now focusing on the circular economy. These initiatives will be developed in next sections of this EIR country report.

SMEs and resource efficiency

Portuguese SMEs account for more than two thirds of total value added (compared with an average of 57 % in the EU) and nearly four out of five jobs (against two out of three jobs in the EU on average). Despite a more positive outlook since 2013, the recession period of 2008 continues to have an impact⁹.

The performance of Portuguese SMEs is above EU average on several indicators on resource efficiency and green markets. 58% of Portugal's SMEs have invested up to 5% of their annual turnover in their resource efficiency

⁵ European Commission, 2015. [Proposed Circular Economy Package](#)

⁶ <http://ec.europa.eu/environment/enveco/studies.htm>

⁷ Resource productivity is defined as the ratio between gross domestic product (GDP) and domestic material consumption (DMC).

⁸ Eurostat, [Resource productivity](#), accessed October 2016.

⁹ European Commission, [SMEs country sheets 2016](#)

actions (EU28 average 50%), 26 % of them are currently offering green products and services, 74% took measures to save energy (EU28 average 59%), 62% to minimise waste (EU28 average 60%), 66% to save water (EU28 average 44%), and 74% to save materials (EU28 average 54%). From a circular economy perspective, 63% took measures to recycle by reusing material or waste within the company, 51% to design products that are easier to maintain, repair or reuse and 30% were able to sell their scrap material to another company¹⁰.

The EU Roadmap on Resource Efficiency outlines how we can transform Europe's economy into a sustainable one by 2050¹¹.

Investments in innovative, cost-saving measures by SMEs to reduce resource- and energy use have the potential to result in high cost savings. Thus, according to a study, for only four SME sectors (food & beverages; energy, power & utilities; environmental technologies; construction) the savings that would strengthen their competitiveness could already amount to EUR 882 million in Portugal¹².

Another recent study offers a detailed analysis of the level of application of business support measures to improve resource efficiency applied in the EU Member States¹³. This study shows that Portugal has implemented a few resource efficiency measures for businesses. In this sense, it appears that measures supporting Industrial Symbiosis have been more successful as there is an electronic negotiation platform promoting the interaction between supply and demand of waste. Further measures identified, reflect the concentrated efforts in supporting voluntary agreements, providing targeted resource efficiency information and building resource efficiency skills within business.

Initiatives such as the Ecopol project are fundamental to kick start the necessary network and interaction among different stakeholders to identify the eco-innovation champions, initiatives, products and services, and to demonstrate the benefits for business and the society. This 2014 project brought together public institutions and the private sector in the sustainable habitat cluster, to propose policy instruments and tools specifically aimed at improving the use of sustainable construction materials by public institutions and the community.

At the industry level, several initiatives were launched in 2015 specifically targeting resource efficiency through eco-innovation in industry, serving as “living labs” to pilot

technologies, sharing of best practices and providing a platform to raise awareness on circular economy and the future of the industry. Three such initiatives were streamlined by the Portuguese Companies Association¹⁴: the Efinerg¹⁵ project, aimed at energy efficiency practices and technologies in industry; Ecoproductin¹⁶, aimed at material and water efficiency; and Interambinerg¹⁷, aiming to support the internationalisation of the Portuguese sector for environmental and energy goods and services.

Eco-innovation

In a 2013 eco-innovation scoreboard, Portugal ranked below the EU-28 average (14th place) with an overall score of 79 (EU-28 average is 100) as shown in Figure 2.¹⁸ The following two years saw Portugal strengthening its position in the compound EIO score in comparison to previous years, improving to 101.6 and the 12th place in the EU ranking. These results are supported by other indicators and reports, such as the Innovation Scoreboard (EC, 2015) index, which shows an improvement from 0.396 in 2013 to 0.4 in 2014 and 0.403 in 2015.

Figure 2: Eco-Innovation Index 2015 (EU=100)¹⁹

¹⁰ European Commission, 2015. [Flash 426 Eurobarometer](#) "SMEs, resource efficiency and green markets

¹¹ Communication COM(2011) 571. [The Resource Efficiency Roadmap](#) is part of the Resource Efficiency Flagship of the Europe 2020 Strategy.

¹² RPA, 2015. [Assessing the Potential Cost Savings and Resource Savings of Investments in 4 SME sectors](#), study for the European Commission.

¹³ Ecologic Institute, IEEP, BIO by Deloitte, 2015. [A framework for Member States to support business in improving its resource efficiency](#). Study for the European Commission.

¹⁴ AEP: *Associação Empresarial de Portugal*.

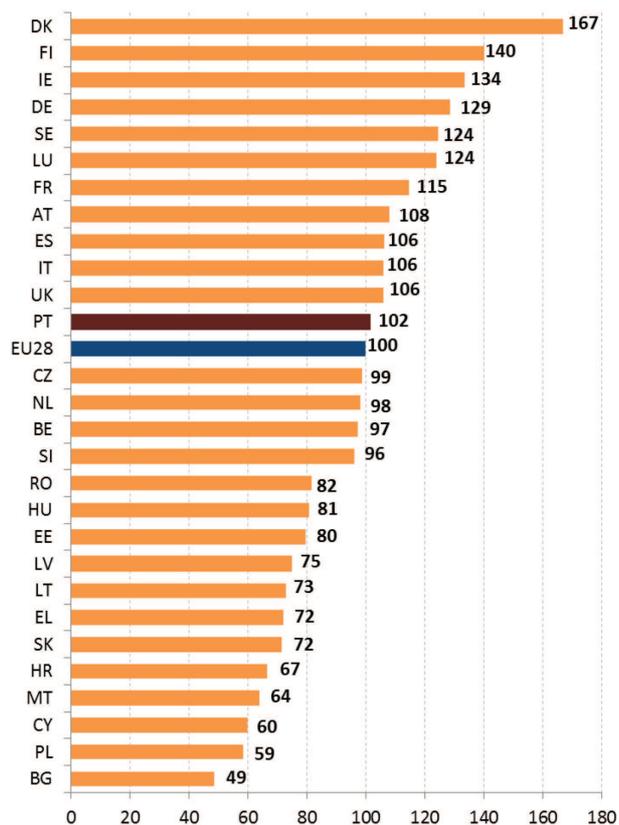
¹⁵ Efinerg project <http://efinerg.aeportugal.pt/Projeto.aspx>

¹⁶ Ecoproductin project <http://ecoproductin.aeportugal.pt/Projeto.aspx>

¹⁷ Interambinerg project <http://interambinerg.aeportugal.pt/Projeto.aspx>

¹⁸ Eco-Innovation Observatory, [Country Brief 2013 Portugal](#).

¹⁹ [Eco-innovation Observatory](#): Eco-Innovation scoreboard 2015



Portugal has a number of clusters in which strategies are being developed and that are very committed to eco-innovation as a differentiation factor: “HABITAT”: the Portuguese Sustainable Habitat Cluster, “Energy IN”: the Portuguese Energy Cluster and “PRODUTECH”: the Portuguese Production Technologies Cluster.

Nevertheless, resource efficiency targets and innovation policies in Portugal have not been well connected, missing a cross-cutting integration and incentives for synergies. To remediate this, the Portuguese Government adopted in June 2016 the "Commitment to Knowledge and Science: Commitment with the Future". This is a new Agenda for the period 2016-2020, calling for coherence and coordination between different policy areas, promoting a new policy framework for the role of knowledge in the development of the country, based on different strategic dimensions, namely in the promotion of thematic research and innovation agendas and of territorial dimension stimulating the development of cities/regions.

As of May 2016, Portugal has 56 EMAS registered organisations, which is a low compared to the total of 4034 organisations that hold a registration in the EU. The number of EU Ecolabel licenses in Portugal is also low.

Suggested actions

- Implement a better monitoring of the circular economy policy tools in order to assess their effectiveness and be able to revise them.

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/WPP²⁰ are key tools to assess the performance of Member States. This section focuses on management of municipal waste for which EU law sets mandatory recycling targets.

The generation of municipal waste²¹ in Portugal has decreased in the recent years to 453 kg/year/inhabitant and is below the EU average (475 kg/year/inhabitant) as shown in Figure 3.

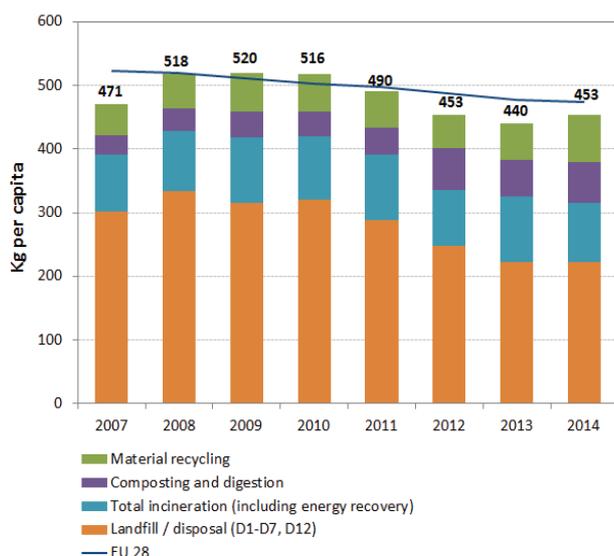
Figure 3 depicts the municipal waste by treatment in Portugal in terms of kg per capita, which shows a slight increase in recycling and composting and a small shift away from incineration and landfilling. Incineration (with energy recovery) represents 21%; while landfilling represents 49% (much higher than the EU average of 28%). In this context, managing waste efficiently remains a challenge in Portugal.

Figure 3: Municipal waste by treatment in Portugal 2007-14²²

²⁰ Waste Management Plans/Waste Prevention Programmes

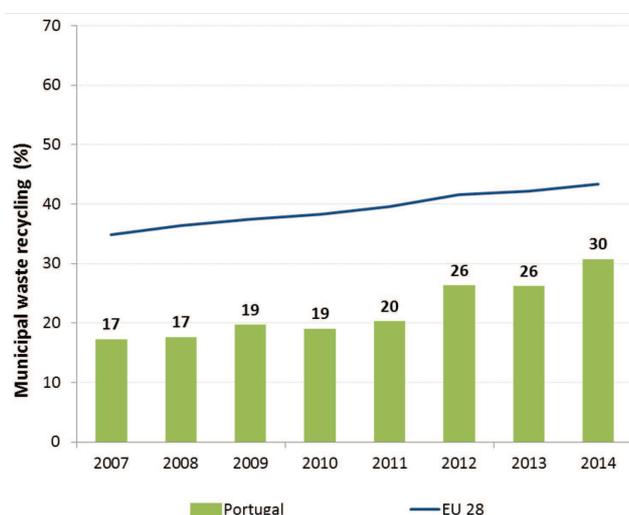
²¹ Municipal waste consists of waste collected by or on behalf of municipal authorities, or directly by the private sector (business or private non-profit institutions) not on behalf of municipalities.

²² Eurostat, [Municipal waste and treatment, by type of treatment method](#), accessed October 2016



Portugal achieved the 2006 target for diversion of biodegradable waste from landfill (75%). However, the biodegradable municipal waste landfilled has increased since then. Portugal has benefited from a four year derogation targets for 2009 (50%) and 2016 (35%), deferring these to 2013 and 2020 respectively. Portugal reported meeting the deferred 50% landfill target in 2015.

Figure 4: Recycling rate of municipal waste 2007-14²³



Portugal has made progress in terms of increases of recycling rate and diversion of municipal waste from landfill in the course of the past decade. However, the recycling rate for municipal waste in 2014 was at 30% (of which 16% recycling and 14% composting), markedly below the EU average of 44%. Figure 4 shows that Portugal must further invest in recycling in the coming

years in order to reach the EU 2020 recycling target²⁴.

Portugal approved in 2014 the National Waste Management Plan 2014-2020²⁵, as well as the Strategic Plan for Municipal Solid Waste for the mainland (PERSU 2020)²⁶. The main objective of the PERSU 2020 is to set the roadmap to meet the 2020 EU targets for municipal waste, namely the 50% objective for preparation for reuse and recycling. To help meet the targets, PERSU 2020 proposes a large set of measures aligned with eight strategic objectives.

At present, the opportunities for waste prevention and recycling are not yet fully developed in Portugal, and a still high proportion of incinerated and landfilled municipal waste is preventing transition to a circular economy. In order to help bridge the implementation gap in Portugal, the Commission has delivered a roadmap with recommendations for compliance²⁷.

The underlying causes for the current distance to EU waste targets are:

- Lack of incentives to manage waste according to the waste hierarchy;
- Lack of co-ordination between the different administrative levels;
- Insufficient (door-to-door) separate collection of waste;
- Insufficient extended producer responsibility (EPR) systems.

In order to face these gaps, Portugal has been actively developing the following initiatives:

- has recently reviewed its landfill tax establishing a gradual increase until 2020;
- is channelling EU funds from operational programs to coordinate efforts between agents in the waste management chain. Projects are positively valued if they integrate measures and organisations aiming at the compliance of targets.
- is enhancing all efforts aiming at the separate collection of waste. Also operational programs are financing dedicated projects on door to door and PAYT collection.
- has 12 EPR systems and as of September 2016 will soon licence one more on packaging waste. All country is covered by these schemes in ELV,

²⁴ Member States may choose a different method than the one used by Eurostat (and referred to in this report) to calculate their recycling rates and track compliance with the 2020 target of 50% recycling of municipal waste.

²⁵ Plano Nacional de Gestão de Resíduos para o horizonte 2014-2020. Diário da República 16.03.2015.

²⁶ Plano Estratégico para os Resíduos Urbanos (PERSU 2020) para o Portugal continental. Diário da República 17.09.2014.

²⁷ European Commission, 2016. [Support to Implementation – The Commission helps 8 Member States to improve their municipal waste management](#). Fact sheet for [Portugal](#).

²³ Eurostat, [Recycling rate of municipal waste](#), accessed October 2016

packaging waste, WEEE, batteries and accumulators, mineral oils and tyres. Portugal is complying with the targets established for these waste streams. A new set of EPR licences are now being established already having in mind new challenges arising as well as the increase of transparency in the management of these schemes.

Still, there is clear scope to develop specific policy instruments that support the transition to a more circular economic model, which would improve resilience and competitiveness of the Portuguese economy, based in resource efficiency and productivity.



As a consequence of the green taxation reform, a tax on plastic bags has been approved in Portugal, in force from January 2015.

The implementation of the measures foreseen in the PERSU 2020 is crucial to improve the current situation on waste management.

Full implementation of EU waste legislation could create more than 14,900 jobs in Portugal and increase annual turnover of the waste sector by over EUR 1,560 million. Moving towards the targets of the Roadmap on resource efficiency could create over 18,200 additional jobs and increase the annual turnover of the waste sector by over EUR 1,910 million²⁸.

Suggested action

- Provide the right economic incentives to implement further the waste hierarchy: i.e. promote prevention, make reuse and recycling more economically attractive, and shift reusable and recyclable waste

away from incineration (e.g. increasing landfill and incineration charges, consider introduction of a residual waste tax).

- Focus on implementation of the separate collection obligation to increase recycling rates (e.g. expand door-to-door collection systems, through PAYT systems).
- Undertake a review of treatment infrastructure requirements, taking into account the changes in waste collection.
- Extend and improve the cost-effectiveness, monitoring and transparency of existing EPR schemes, eliminate free-riding and promote competition in order to increase efficiency of national waste management systems.

²⁸ Bio Intelligence service, 2011. [Implementing EU Waste legislation for Green Growth](#), study for European Commission. The breakdown per country on job creation was made by the consultant on Commission demand but was not included in the published document.

2. Protecting, conserving and enhancing natural capital

Nature and Biodiversity

The EU Biodiversity Strategy aims to halt the loss of biodiversity in the EU by 2020, 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 Areas 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 designation²⁹ both in land and at sea, should be the key items to measure the performance of Member States.

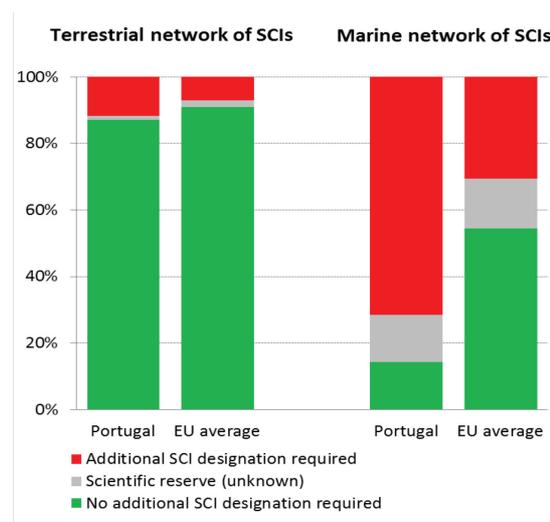
Portugal hosts 99 habitat types and 325 species covered by the Habitats Directive. The country also hosts populations of 80 bird species listed in the Birds Directive Annex I.

By early 2016, 20.6% of the national land area of Portugal was covered by Natura 2000 (EU average 18.1%), with Birds Directive SPAs covering 10% (EU average 12.3%) and Habitats Directive SCIs covering 17 % (EU average 13.8%). The latest assessment of the SCI part of the

²⁹ 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.

Natura 2000 network shows that there are insufficiencies in designation, especially for the marine components of the network³⁰, as shown in Figure 5³¹.

Figure 5: Sufficiency assessment of SCI networks in Portugal based on the situation until December 2013 (%)³²



The 6-year deadline set by the Habitats Directive to designate SAC and establish appropriate conservation objectives and measures has expired. Portugal has already designated the Macaronesian Biogeographical region SCIs as SACs. Nevertheless, no SACs have yet been designated for the SCIs of the Atlantic and Mediterranean Biogeographical regions, and it has defined management plans only for 3 SCIs.

According to the latest report on the conservation status³³ of habitats and species covered by the Habitats

³⁰ 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](#), which were assessed in 2014-2015, reflect the situation up until December 2013.

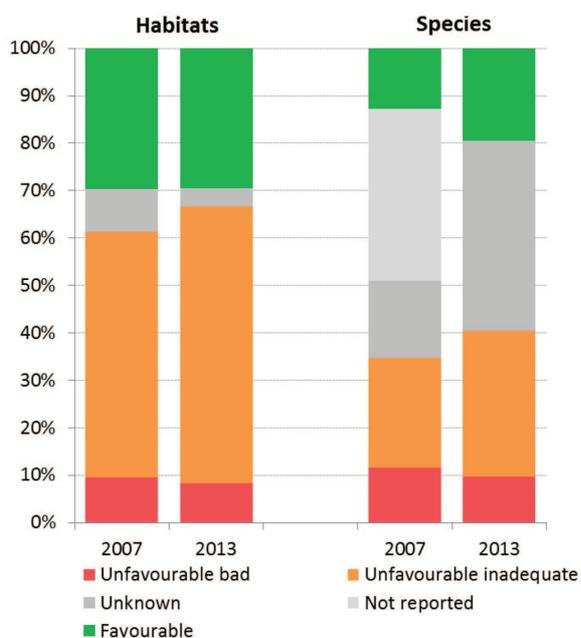
³¹ The percentages in Figure 5 refer to percentages of the total number of assessments (one assessment covering 1 species or 1 habitat in a given biogeographical region with the Member State); if a habitat type or a species occurs in more than 1 Biogeographic region within a given Member State, there will be as many individual assessments as there are Biogeographic regions with an occurrence of that species or habitat in this Member State.

³² European Commission, internal assessment.

³³ 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

Directive³⁴, 29% of the habitats biogeographic assessments were favourable in 2013 (EU 27: 16%). Furthermore, 58% are considered to be unfavourable–inadequate (EU27: 47%) and 8% are unfavourable – bad (EU27: 30%).

Figure 6: Conservation status of habitats and species in Portugal in 2007/2013 (%)³⁵



As for the species, 19% of the assessments were favourable in 2013 (EU 27: 23%), 31% at unfavourable-inadequate (EU27: 42%) and 10% unfavourable-bad status (EU27: 18%). This is depicted in Figure 6³⁶. 8% and 5.7% of the unfavourable assessments respectively for species and habitats were showing a positive trend in 2013. However, the conservation status between 2007 and 2013 does not seem to be on a positive trend.

Figure 7 shows that as far as birds are concerned, 43% of the breeding species showed short-term increasing or stable population trends (for wintering species this figure was 57%).

As regards forests, Portugal faces challenges related to

the Habitats Directive.

³⁴ The core of the 'Article 17' report is the assessment of conservation status of the habitats and species targeted by the Habitats Directive.

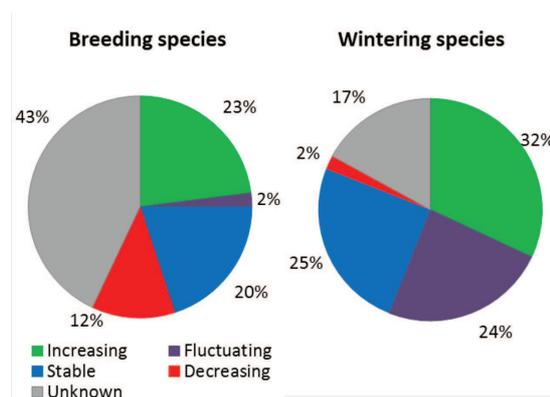
³⁵ These figures show the percentage of biogeographical assessments in each category of conservation status for habitats and species (one assessment covering 1 species or 1 habitat in a given biographical region with the Member State), respectively. The information is based on Article 17 of the Habitats Directive reporting - [national summary of Portugal](#)

³⁶ 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.

the fact that most of the forest land is privately owned, the intensive agriculture, the spreading of the pine wood nematode, the intensive and the forest fire risk.

During the last years, CAP and particularly the Rural Development pillar has been the most important financial instrument available for managing nature and biodiversity farmland and forest areas.

Figure 7: Short-term population trend of breeding and wintering bird species in Portugal in 2012 (%)³⁷



At the same time, consistent policies were adopted to promote sustainable forest management to face small scale land property and the abandonment of rural communities, namely in Northern and Central Portugal. It has also aimed at providing a better response to the need for ongoing and active forest (and environmental) management, which is also essential for preventing the high pressure posed by forest fires risk and the establishment and spread of harmful biotic agents.

Suggested action

- Complete the Natura 2000 designation process, in land and at sea, 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.
- Continue to develop and promote smart and streamlined implementation approaches, in particular as regards site and species permitting procedures, ensuring the necessary knowledge and data availability. Strengthen communication with stakeholders.
- Strengthen capacity building in order to improve management of Natura 2000 sites and species

³⁷ These figures show the percentage of biogeographical assessments in each category of conservation status for habitats and species, respectively. The information is based on Article 12 of the Birds Directive reporting - [national summary of Portugal](#)

protection regimes and to ensure full integration with other policies and their associated funds.

- Continue the efforts to improve the mainstreaming of nature targets, namely Natura 2000 implementation, in cross-cutting and sectoral policies, programmes and strategies, particularly in the areas of agriculture, forestry, fisheries, energy, climate, land and marine spatial planning.

Estimating Natural Capital

The EU Biodiversity Strategy to 2020 calls on the Member States to map and assess 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.

Portugal completed in 2009 a national ecosystem assessment following the conceptual framework of the Millennium Ecosystem Assessment. Several local scale and thematic (montado ecosystems) assessments have been developed in last years. In 2014 a short term pilot MAES³⁸ was carried out in the south of Portugal which tested, at a regional level (NUTS II Alentejo), methodologies and indicators for mapping ecosystems, assessing their condition and mapping ecosystem services³⁹, particularly those connected to agriculture and forest ecosystems. The project provided highlights on the added value of the ecosystem services within the broader economy of the region.



A process is planned for the development of a MAES networking platform for relevant scientific projects, data and information sources and for engaging other relevant stakeholders and public authorities. Portuguese research teams are involved in various research projects

³⁸ Mapping and assessment of ecosystems and their services.

³⁹ Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends.

OpenNESS, OPERA, ESMERALDA and within IPBES global and regional assessments.

The importance of ecosystem services and natural capital for growth and jobs has been addressed in government initiatives on the green economy, green tax reforms, TEEB approaches and ecosystem services assessments, and included in the programming of ESIF 2014-2020.

A kick-off MAES conference was held in Portugal in December 2015 to debate with the scientific community, decision-makers and private stakeholders on the views and perspectives of a national MAES Portugal and the foreseen outcomes for policy making up to 2020. Portugal is now preparing a long term process, aiming at covering the mainland Portugal territory.

Portugal co-led the MAES EU pilot study on forest ecosystems in 2014 and participates in the MAES EU pilot study on marine ecosystems. It has also taken part in the EU MAES pilot study on urban ecosystem services (involving the municipalities of Lisbon, Oeiras and Cascais) launched in 2015.

Suggested action

- Continue supporting the mapping and assessment of ecosystems and their services, and the valuation and development of natural capital accounting systems, through appropriate indicators for monitoring economic progress and further developing ecosystem accounts.

Green Infrastructure

The EU strategy on green infrastructure⁴⁰ 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.

Portugal has incorporated ecological systems in spatial land planning since 1999, namely at municipality (Master Plans) and regional scales, and also at sector scale (forest management plans). An inter-ministerial coordination mechanism is in charge of promoting the integration of conservation and sustainable use of biodiversity into

⁴⁰ European Union, Green Infrastructure — Enhancing Europe's Natural Capital, [COM/2013/0249](https://ec.europa.eu/eip/infrastructure/enhancing-europe-natural-capital)

various sectoral policies⁴¹, including considerations in ecological network planning.

Since 1983, the most sensitive biophysical areas across the country's territory have been identified and mapped according to structural and functional criteria defined by the National Ecological Reserve Act (REN) integrated into the national network for the conservation of nature in 2008.

The REN supports inter alia biodiversity objectives at landscape level and the establishment of a functional network of core areas for nature conservation and biodiversity.

A review of this regime is ongoing in order to further develop the services pillar of REN (e.g. risk management, soil erosion, landslides, coastal erosion, climate adaptation).

In the REN, various Green Infrastructure elements are planned, including protected areas, sustainable use areas and natural connectivity features, risk mitigation and management areas. The Portuguese land use planning policy is based on a hierarchical system of territorial management, which operates at national, regional and municipal level. At the national level, the REN aims to: 1) Protect water and soil resources and ensure environmental goods and services essential to the development of human activities; 2) Prevent and reduce the effects of degradation of groundwater recharge, flood risk maritime, drought, soil erosion and mass movements on slopes contributing to the adaptation of the effects of climate changes ensuring environmental sustainability; and 3) Contribute to the connectivity and ecological coherence of areas and natural connectivity features. The REN thereby also relates to policies on water (including the EU Water Framework Directive), agriculture and adaptation to climate change.

Examples of good operational approaches to Green Infrastructure in Portugal include the Green Corridor in Lisbon⁴²; the green roof of the waste water treatment plant in Alcântara, Lisbon⁴³; or the Ecological Restoration and Conservation of Praia da Vitória Coastal Wetland Green Infrastructure (Azores)⁴⁴.

There is scope for demonstrating the socio-economic growth benefits of GI, in urban, peri-urban, coastal and rural context while promoting territorial cohesion.

A good focus would be to develop a Green Infrastructure approach at national, regional and local level (including in urban areas), coordinated with ecosystem and ecosystem services assessments and ecosystem restoration planning, taking into account the elements already

available (e.g. REN, spatial plans, assessments) and new and innovative solutions on nature-based approaches.

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).

The annual land take rate (growth of artificial areas) as provided by CORINE Land Cover was 0.52% in Portugal over the period 2006-12, just above the EU average (0.41%). It represented 1853 hectares per year and mainly driven by housing, services and recreation as well as transport and infrastructures⁴⁵.

The percentage of built up land in 2009 was 2.83%, below the EU average (3.23%)⁴⁶.

The soil water erosion rate in 2010 was 2.31 tonnes per

⁴¹ Council of Ministers Resolution Nº 41/99 of 17 May 1999.

⁴² <http://www.lisboadiariodebordo.com/#!corredor-verde-lisboa/cg9d>

⁴³ <http://www.adp.pt/pt/?id=61&img=39&bl=6>

⁴⁴ <http://cmpv.pt/minisites/life/index.php?op=textos&codtexto=5>

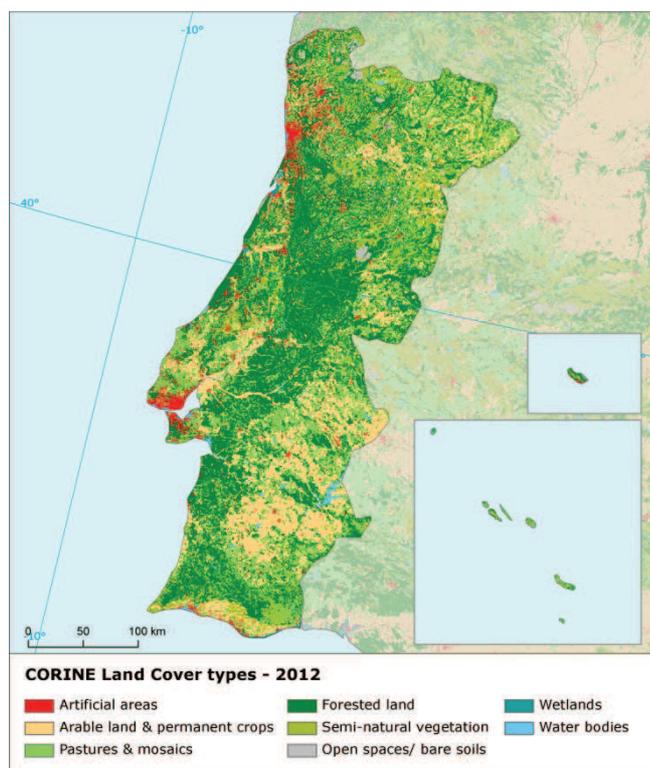
⁴⁵ European Environment Agency [Draft results of CORINE Land Cover \(CLC\) inventory 2012](#); mean annual land take 2006-12 as a % of 2006 artificial land.

⁴⁶ European Environment Agency, 2016. [Imperviousness and imperviousness change](#)

ha per year, close to EU-28 average (2.46 tonnes)⁴⁷.

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

Figure 8: Land Cover types in Portugal 2012⁴⁸



In 2014, the National Action Program to Combat Desertification (PANCD)⁴⁹ was updated (building on a previous version of 1999). PANCD is fully aligned with the vision, the mission, and the strategic and operational objectives and goals of the 10 Year Strategy of the United Nations Convention to Combat Desertification.

PANCD is a cornerstone Strategy for the protection and recovery of affected soil in Portugal defining the institutional framework responsible for ensuring implementation and establishing a desertification monitoring system to assess its effects and trends. It defines a strategic vision, setting four strategic objectives: 1) To promote the improvement of living conditions of the populations of susceptible areas; 2) To promote the sustainable management of ecosystems of susceptible areas and the recovery of affected areas; 3) Generate global benefits and potential synergies with the processes of climate change and biodiversity in sensitive areas; 4) To promote and mobilize resources to implement the UNCCD and PANCD) and associated

⁴⁷ Eurostat, [Soil water erosion rate](#), Figure 2, accessed November 2016

⁴⁸ European Environment Agency, Land cover 2006 and changes country analysis [publication forthcoming]

⁴⁹ Resolution of the Council of Ministers No. 78/2014 <https://dre.pt/application/file/65985917>

specific objectives, lines of action and indicators.

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 Portugal and other EU Member States is being performed by the EU Expert Group on Soil Protection.

Marine protection

The EU Coastal and Marine Policy and legislation require that by 2020 the impact of pressures on marine waters is reduced to achieve or maintain good environmental status and coastal zones are managed sustainably.

SDG 14 requires countries to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

The Marine Strategy Framework Directive (MSFD)⁵⁰ aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 by providing an ecosystem approach to the management of human activities with impact on the marine environment. The Directive requires Member States to develop and implement a marine strategy for their marine waters, and cooperate with Member States sharing the same marine region or subregion.

As part of their marine strategies, Member States had to make an initial assessment of their marine waters, determine GES⁵¹ and establish environmental targets by July 2012. They also had to establish monitoring programmes for the on-going assessment of their marine waters by July 2014. The next element of their marine strategy is to establish a Programme of Measures (2016). The Commission assesses whether these elements constitute an appropriate framework to meet the requirements of the MSFD.

Portuguese marine waters are part of the North-East Atlantic Ocean marine region and are divided into four subdivisions: the continental subdivision, the Acores and Madeira subdivisions and the 'extended continental shelf'. Portugal is party to the Convention for the protection of the marine environment of the North-East Atlantic (OSPAR Convention). In the open ocean areas of the Atlantic the main threats to biodiversity are potentially: overfishing, bottom-trawling (note that Portugal decided to ban bottom-trawling for its national

⁵⁰ European Union, [Marine Strategy Framework Directive 2008/56/EC](#)

⁵¹ The MSFD defines Good Environmental Status (GES) in Article 3 as: "The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive"

fleet and is seeking to ban it for all EU fleet), discards, and pollution resulting from accidents (e.g. oil spills).

In 2014 Portugal reported only for its continental subdivision (mainland waters) and partially for its extended continental shelf area beyond 200 nm and completed the reporting exercise in 2015 for Macaronesia. Portugal did not provide a clear determination of GES. Portugal also provided insufficient details to evaluate if and when GES was achieved⁵².

It is therefore too early to say whether Portugal's waters are in good status as there were weaknesses in determining what GES is the in first place.

Portugal also established a monitoring programme of its marine waters in 2014 for all descriptors, except for eutrophication and hydrographic changes. It seems that its monitoring programmes for all descriptors except commercial fisheries need further refinement and development to constitute an appropriate framework to monitor progress towards GES. It is also not clear from Portugal's reporting whether its monitoring programme is already being implemented or whether it will come into force at a later date⁵³.

In 2016 Portuguese marine protected areas (both Natura 2000 sites and national designations) covered 113 107 km² of which 536 km² were designated in the continental subdivision, 112 334 km² were designated around the Azores and 237 km² around Madeira.

The Commission's reports on the implementation of the MSFD⁵⁴ provide guidance to assist Portugal in its implementation of the MSFD.

Suggested action

- Continue work to improve the definitions of Good Environmental Status (GES) in particular for biodiversity descriptors, including through regional cooperation by using the work of the relevant Regional Sea Convention.
- Address knowledge gaps.
- Continue to integrate existing monitoring programmes

⁵² Commission Staff Working Document Accompanying the Commission Report on "The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance" ([SWD\(21014\) 049 final](#) and [COM\(2014\)097 final](#))

⁵³ Commission Staff Working Document Accompanying the Commission Report on "The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance" ([SWD\(21014\) 049 final](#) and [COM\(2014\)097 final](#))

⁵⁴ Report from the Commission "The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance" [COM\(2014\)097](#) & Commission Staff Working Document Accompanying the Commission Report assessing Member States' monitoring programmes under the Marine Strategy Framework Directive (COM(2017)3 and SWD(2017)1 final).

required under other EU legislation and to implement joint monitoring programmes, where they exist, developed at (sub) regional level.

- Enhance comparability and consistency of monitoring methods within the Portuguese marine region.
- Ensure that its monitoring programme is implemented without delay, addresses all descriptors and is appropriate to monitor progress towards its GES.

3. Ensuring citizens' health and quality of life

Air quality

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.

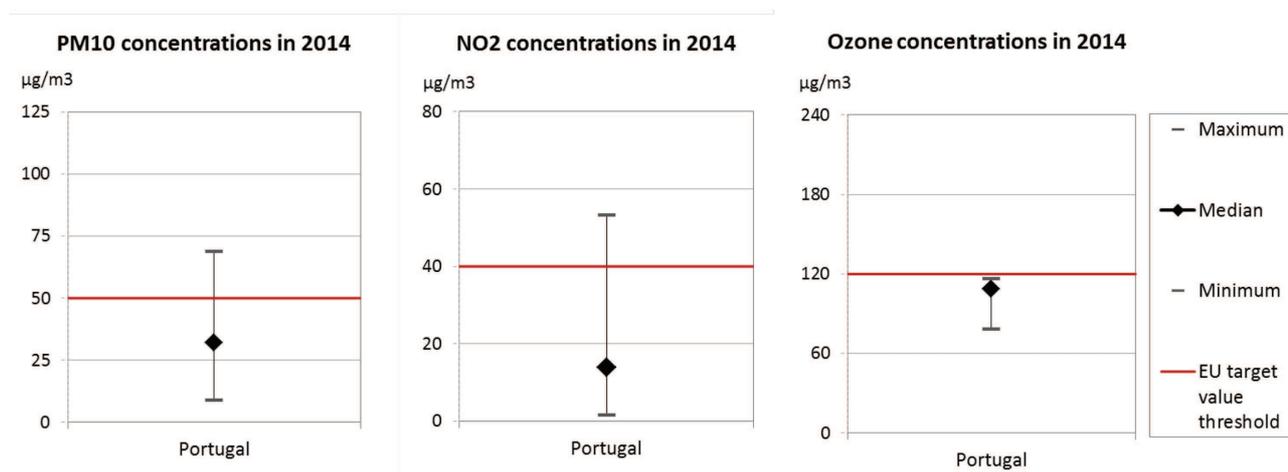
The EU has developed an extensive body of legislation⁵⁵, which establishes health based standards and objectives

within the currently applicable national emission ceilings⁵⁷.

At the same time, air quality in Portugal continues to give cause for concern. For the year 2013, the European Environment Agency estimated that about 6 070 premature deaths were attributable to fine particulate matter concentrations⁵⁸, 420 to ozone concentration and 150 to nitrogen dioxide⁵⁹ concentrations⁶⁰. This is due also to exceedances above the EU air quality standards such as shown in Figure 9⁶¹.

For 2014, exceedances above the EU air quality standards have been registered for nitrogen dioxide (NO₂) in three

Figure 9: Attainment situation for PM10, NO2 and O3 in 2014



Note: These graphs show concentrations as measured and reported by the Member State at different locations; specifically they show, (a) for PM10, the 90.4 percentile of daily mean concentration, which corresponds to the 36th highest daily mean, (b) for NO₂, the annual mean concentration, and (c) for O₃, the 93.2 percentile of maximum daily 8-hour mean concentration values, which corresponds to the 26th highest daily maximum. For each pollutant they depict both the lowest and highest concentration reported, as well as the median values (i.e. note that 50% of the stations report lower concentrations than the respective median value, the other 50% report higher concentrations). The air quality standards as set by EU legislation are marked by the red line.

for a number of pollutants in air. Member States are required to ensure that up-to-date information on ambient concentrations of the different pollutants is routinely made available to the public. The National Emission Ceilings Directive provides for emission reductions at national level that should be achieved for six main pollutants.

The emission of several air pollutants has decreased significantly in Portugal⁵⁶. Reductions between 1990 and 2014 for sulphur oxides (-89%), nitrogen oxides (-33%), ammonia (-31%) as well as volatile organic compounds (-37%) ensure air emissions for these pollutants are

⁵⁵ European Commission, 2016. [Air Quality Standards](#)

⁵⁶ See [EIONET Central Data Repository](#) and [Air pollutant emissions data viewer \(NEC Directive\)](#)

⁵⁷ The current national emission ceilings apply since 2010 ([Directive 2001/81/EC](#)); revised ceilings for 2020 and 2030 have been set by [Directive \(EU\) 2016/2284](#) on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC.

⁵⁸ Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many human sources, including combustion.

⁵⁹ NO_x is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NO_x is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO₂).

⁶⁰ European Environment Agency, 2016. [Air Quality in Europe – 2016 Report](#). (Table 10.2, please see details in this report as regards the underpinning methodology)

⁶¹ Based on European Environment Agency, 2016. [Air Quality in Europe – 2016 Report](#). (Figures 4.1, 5.1 and 6.1)

air quality zones (Porto, Braga and Lisbon). Furthermore, for several air quality zones the target values and long-term objectives regarding ozone⁶² concentration are not being met.⁶³

The persistent breaches of air quality requirements (for PM₁₀ and 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 Portugal. The aim is that adequate measures are put in place to bring all zones into compliance.

To address the air quality problems Portugal has recently approved the National Strategy for Air (ENAR 2020⁶⁴), which proposes actions concerning transport, industrial, agricultural and domestic heating to reduce air emissions and should be applied at local, regional and national level. It remains to be seen how these actions will be implemented in practice.

It is estimated that the health-related external costs from air pollution in Portugal are above EUR 4 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 1.7 million workdays lost each year due to sickness related to air pollution, with associated costs for employers of EUR 159 million/year (income adjusted, 2010), for healthcare of above EUR 14 million/year (income adjusted, 2010), and for agriculture (crop losses) of EUR 46 million/year (2010)⁶⁵.

Suggested action

- Maintain downward emissions trends of air pollutants in order to achieve full compliance with air quality limit values - and reduce adverse air pollution impacts on health, environment and economy.
- Reduce nitrogen oxide (NO_x) emissions to comply with currently applicable national emission ceilings⁶⁶ and/or to reduce nitrogen dioxide (NO₂) (and ozone concentrations), inter alia, by reducing transport related emissions - in particular in urban areas.

⁶² Low level ozone is produced by photochemical action on pollution and it is also a greenhouse gas.

⁶³ See [The EEA/Eionet Air Quality Portal](#) and the related Central Data Repository

⁶⁴ Resolução do Conselho de Ministros n.º 46/2016, de 26 de Agosto de 2016

⁶⁵ These figures are based on the [Impact Assessment](#) for the European Commission Integrated Clean Air Package (2013).

⁶⁶ 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.

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 issues⁶⁷. 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.

Portugal's implementation of the Environmental Noise Directive⁶⁸ is significantly delayed. The noise mapping for the most recent reporting round, for the reference year 2011, is only 33% complete for agglomerations, 68% for major roads and 47% for major railways. Noise mapping for major airports is 100% complete. Action plans for noise management in the current period have been adopted for only 17% of agglomerations, 5% of major roads and 0% of major railways. For airports, the Portuguese authorities have fulfilled all their obligations. The European Commission has contacted the Portuguese authorities with regard to the missing noise maps and action plans, and continues to follow up on the situation.

Suggested action

- Complete noise mapping and action plans for noise management in urban areas.

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

⁶⁷ WHO/JRC, 2011, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephelopoulou, S. (eds), [World Health Organization, Regional Office for Europe](#), Copenhagen, Denmark

⁶⁸ 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.

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*⁶⁹ 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.

Portugal has provided information to the Commission from its second generation of RBMPs. However, as the Commission has not yet been able to validate this information for all Member States, it is not reported here.

In its first generation of RBMPs Portugal reported the status of 1705 rivers, 122 lakes (of which 97 are reservoirs), 53 transitional, 65 coastal and 149 groundwater bodies. 57% of natural surface water bodies achieve a good or high ecological status⁷⁰ and only 28% of heavily modified or artificial water bodies achieve a good or high ecological potential. Only 27% of surface water bodies (while the status of 72% is unknown), 30% of heavily modified and artificial water bodies (70% unknown) and 83% of groundwater bodies achieve good chemical status⁷¹. 98% of groundwater bodies are in good quantitative status.

The main pressure on the Portuguese surface waters is diffuse pollution⁷² that affects 46% of water bodies. Point sources of pollution affect 27% of water bodies followed

by flow regulation and morphological alterations that affect 26%. There are some regional differences, e.g. diffuse sources of pollution affect all water bodies in the Guadiana river basin district but only 27% in the Douro river basin district.

The Portuguese RBMPs Plans have some deficiencies that result in uncertainties about the status and effectiveness of Programmes of Measures. In particular there are weaknesses in monitoring, methodologies for status assessment and the link between pressures and Programmes of Measures. The planned measures are expected to result in improvement of ecological and chemical status of surface water bodies by 7% and 31% respectively. The measures should also bring improvement of ecological potential of artificial and heavily modified water bodies⁷³ by 14% and chemical status by 11%. The chemical status of groundwater should improve by 2%⁷⁴.

The Commission is assessing on a regular basis the implementation of the Water Framework Directive by the Member States⁷⁵.

As regards drinking water, Portugal reaches now very high compliance rates of 99-100% for microbiological, chemical and indicator parameters laid down in the Drinking Water Directive⁷⁶.

As shown in Figure 10, in 2015, in Portugal, out of 569 bathing waters, 84.5 % were of excellent quality, 9.7 % of good quality, 2.1 % of sufficient quality (548 in total, all coastal bathing waters). 3 bathing waters were of poor quality or non-compliant while it was not possible to assess the remaining 18 bathing waters. This was mainly due to the fact that the 2014-2015 season registered precipitation values below average, thereby causing dryness in some bathing sites (inland bathing waters).

Since 1993 the quality of bathing water has improved mainly due to the control of faecal pollution sources existing in the areas of influence, as a result of considerable investments in the implementation of waste water treatment infrastructure and the approval of several instruments for territorial management. In inland waters the percentage rose from 69% in 2000 to 83% in 2015 and in coastal transition waters from 92% to 97%. More concretely in 2015, the last available year, the rate of bathing waters with at least sufficient quality

⁶⁹ This includes the [Bathing Waters Directive \(2006/7/EC\)](#); the [Urban Waste Water Treatment Directive \(91/271/EEC\)](#) concerning discharges of municipal and some industrial waste waters; the [Drinking Water Directive \(98/83/EC\)](#) concerning potable water quality; the [Water Framework Directive \(2000/60/EC\)](#) concerning water resources management; the [Nitrates Directive \(91/676/EEC\)](#) and the [Floods Directive \(2007/60/EC\)](#).

⁷⁰ Good ecological status is defined in the Water Framework Directive, in terms of the quality of the biological community, the hydrological characteristics and the chemical characteristics.

⁷¹ Good chemical status is defined in the Water Framework Directive in terms of compliance with all the quality standards established for chemical substances at European level.

⁷² Diffuse pollution comes from widespread activities with no one discrete source.

⁷³ Many European river basins and waters have been altered by human activities, such as land drainage, flood protection and building of dams to create reservoirs.

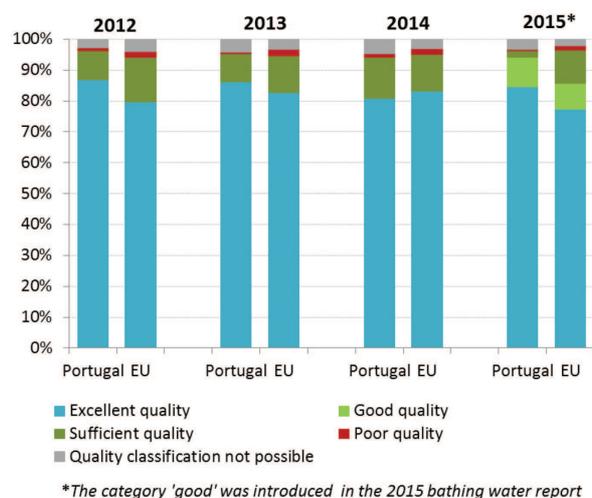
⁷⁴ For groundwater, a precautionary approach has been taken that comprises a prohibition on direct discharges to groundwater, and a requirement to monitor groundwater bodies.

⁷⁵ More information on the implementation status of the Water Framework Directive can be found [here](#)

⁷⁶ [Commission's Synthesis Report on the Quality of Drinking Water in the Union](#) examining Member States' reports for the 2011-2013 period, foreseen under Article 13(5) of Directive 98/83/EC; COM(2016)666

increased from 94.3 % to 96.3% since bathing season 2014⁷⁷.

Figure 10: Bathing water quality 2012 – 2015⁷⁸



Nitrate pollution in Portugal is an issue especially in livestock intensive areas. According to the last report on the implementation of the Nitrates Directive, referring to the period 2008-2011, nitrate levels in groundwater have remained steady over the last years, with high levels in around 20% of monitoring stations.

Several measures of the nitrates action programmes were reinforced through the different revisions in the past years. As regards controls, the most challenging measures in terms of compliance related to storage capacity and balanced fertilisation, including the respect of 170 Kg/ha/year obligation.

In Portugal, around 80% of the overall water consumption is used by agriculture and livestock farming. Although the amount of water used in the agricultural sector has been reduced in the last years, there is still an important water saving potential, related to a better water pricing policy. The potential for innovation leading to water savings is also big.

Regarding the implementation of the Urban Waste Water Treatment Directive (reported in 2014), in Portugal, 99.8% of the waste water load is collected, 88.6% is submitted to secondary treatment of which 77.3% is compliant with the requirements of the Directive (the target is 92.5%) and 73% of the waste water load receives treatment more stringent than secondary. It must also be highlighted the difference in compliance rates at regional level, especially regarding treatment (e.g. "Norte", with higher values than "Alentejo" or "Madeira").

Despite the improvement in compliance throughout the

years, for which the use of EU funding has been fundamental, the incomplete implementation of the Directive has led to several rulings of the Court of Justice of the EU against Portugal, including financial sanctions, which execution is closely followed-up by the European Commission. Therefore, further efforts are needed.

It should be noted that Portugal is the only EU Member State which has identified "less sensitive" areas⁷⁹, or areas in principle not adversely affected by waste water discharges due to their intrinsic features⁸⁰.

The estimated investment needs (reported under article 17 of the Urban Waste Water Treatment Directive) to reach full compliance with the Directive in Portugal are of EUR 183 million⁸¹.

Finally, natural water retention measures for flood prevention are often disregarded, despite being sometimes more cost-effective than hard infrastructure for flood prevention, as well as being cheaper than the costs of flood recovery⁸².

Suggested action

- Portugal should improve its water policy in line with the intervention logic of the Water Framework Directive (WFD), i.e. a detailed assessment of pressures to design effective Programmes of Measures addressing these pressures and the implementation gaps. The assessment methods should improve to provide more certainty about the water status and the Programmes of Measures should be adequately funded.
- New physical modifications of water bodies should be assessed in line with Article 4(7) of the WFD. In these assessments alternative options and adequate mitigation measures have to be considered.
- Agricultural developments should be duly taken into account in the implementation of the nitrates action programmes. Address the issues of compliance on the ground, especially with reference to the measures on balanced fertilisation and storage capacity.
- Efforts should be done to improve the coordinated implementation between water, marine and nature policies.
- Complete implementation of the Urban Waste Water Treatment Directive for all agglomerations, by building up the necessary infrastructure.

⁷⁹ E.g.: open bays, estuaries and other coastal waters with a good water exchange

⁸⁰ Portugal reports regularly to the Commission on its areas identified as "less sensitive areas": "Cabo da Roca/Estoril" and "Madeira (vertentesul)".

⁸¹ European Commission, 2016, [Urban waste water, 8th implementation reports](#).

⁸² RPA, 2014. Study on Economic and Social Benefits of Environmental Protection and Resource Efficiency Related to the European Semester. Study for the European Commission, [Annex 1: Country fiches](#)

⁷⁷ [State of bathing waters 2015-National Report Portugal](#)

⁷⁸ European Environment Agency, [State of bathing water](#), 2016

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.⁸³ 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 housing⁸⁴.

The European Commission will launch a new EU benchmark system in 2017⁸⁵.

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.

In the case of Portugal, it should be highlighted that the city of Torres Vedras was one of the two cities winning the inaugural EU Green Leaf in 2015⁸⁶.

Oriented towards the promotion of a sustainable urban development and in line with the European mainstream strategies and programmes, Portugal approved in 2015 the 'Sustainable Cities 2020' strategy, a guiding document offering the municipalities, the inter-municipal entities and other urban stakeholders a roadmap on urban sustainability for the next European funding cycle,

until 2020. This document outlines a set of non-binding strategic guidelines to be adopted by the Portuguese cities, laying the foundations for its effective application, through the launch of a range of tools that promote its implementation⁸⁷.

This strategy seeks to reinforce the strategic dimension of the role of cities in various areas, namely urban regeneration and restoration, urban environment, low carbon, climate change and risks, anchored on the paradigm of sustainable urban development, for which the involvement and commitment of a multiplicity of agents is a fundamental condition for the focus of interventions not to be limited to the physical dimension of the urban space, but rather, seek to achieve purposes such as economic development, social inclusion, education, participation and environmental protection.



Personal transport exacerbates seasonal problems with air quality and traffic congestion⁸⁸ in the major metropolitan areas in Portugal, namely Lisbon and Porto, leading to health and economic costs. A comprehensive approach is needed to tackle this matter, bringing

⁸³ European Environment Agency, [Urban environment](#)

⁸⁴ <http://urbanagendaforthe.eu/>

⁸⁵ The Commission is developing an [Urban Benchmarking and Monitoring \('UBaM'\) tool](#) 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. EURO CITIES, ICLEI, CEMR, Committee of the Regions, Covenant of Mayors and others.

⁸⁶ European Commission Press Release, 18th June 2015, [Torres Vedras wins inaugural European Green Leaf 2015](#)

⁸⁷ [Council of Ministers Resolution No. 61/2015, August 11](#)

⁸⁸ INRIX, 2015. [Key Findings: INRIX 2015 Traffic Scoreboard](#)

environmental as well as economic and social benefits.

The "Green Growth Commitment" defines a target to increase the use of public transport and points out several paths to meet this target, such as the modernization of public transport, including rail transport, the development of mobility plans for major large public and private employers, the promotion of less pollutant vehicles (including electric vehicles and the use of biofuels) and the promotion of soft transport modes.

It is also important to consider the development of new solutions for urban logistics that have the potential to allow the reduction of the number of trucks in urban centers, and on this matter it is important to point out the participation of the Lisbon & Tagus Valley region on Project *Dorothy*⁸⁹ that aims "to enhance the distribution process of urban goods by reducing the number of vehicles and enhancing environmental standards".

Another relevant issue is the decentralization implemented by the new legal framework for public transport services⁹⁰ which has the potential to promote a better planning and management of these services, at regional and local level, allowing higher efficiency levels that are expected to reduce the environmental impacts of public transport.

The 'Green corridor Lisbon' initiative should be commended in this context as an example of green infrastructure benefitting a metropolitan area. The Lisbon Strategy for 2010-2024 identified three main objectives for the city: (1) City regeneration – rehabilitation of vacant buildings and degraded city districts and green spaces, to reverse the depopulation process; (2) Climate change adaptation – focus on the challenges of climate change and the consequent natural vulnerabilities (such as flooding), as well as on energy efficiency, reducing the number of vehicles in circulation and increasing the area of green spaces; and (3) Connectivity of green spaces – implementation of a network of green spaces and corridors for recreational activities and protection, appreciation and promotion of biodiversity and of natural and cultural landscapes. As a result of the strategy, the size, quality and connectivity of green spaces in Lisbon increased. Elements include bicycle lanes, bicycle-friendly streets, ecological corridors and allotment gardens. The Green corridor networks and informal open spaces such as allotment gardens provide wider accessibility to urban residents, workers and tourists. Other benefits are a positive impact on health by promoting active transport (walking/cycling), environmental impact gains and additional income (and jobs) from an increased number of visitors.

The good practices of sustainable urban development

could be spread across the country.

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, Portugal has signed but not yet ratified two agreements under the Convention on Long-range Transboundary Air Pollution: the Persistent Organic Pollutions Protocol and the Heavy Metals Protocol. The same applies to the Nagoya Protocol⁹¹.

⁸⁹ <http://www.clusterdorothy.com>

⁹⁰ <http://www.imtt.pt/sites/IMTT/Portugues/RJSPTP/Paginas/RJSPTP.aspx>

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.

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 brings important social and environmental benefits. Moreover, environmentally-related taxation is one of the few taxes that are generally not detrimental to growth.

Shifting taxation away from labour towards taxes less harmful to growth remains a key challenge in Portugal. Following the work carried-out during 2014 by the "Commission for Green Tax Reform" and some of its recommendations, Portugal adopted in 2015 a green taxation reform, aiming to promote a more sustainable economic development model, which is a positive step. The additional revenue raised by this green taxation reform is to be allocated to reduce the tax burden on labour, assuming a revenue-neutrality. The effects of this reform have still to be assessed.

There is still scope for considering further measures that were not assumed in this green taxation reform. A more stable and growth-friendly tax system would help foster confidence and encourage private investment.

The 2016 Annual Growth Survey highlights the need to shift taxes away from labour to create efficient and growth-friendly tax systems contributing significantly to increasing employment and adaptability of the labour market⁹².

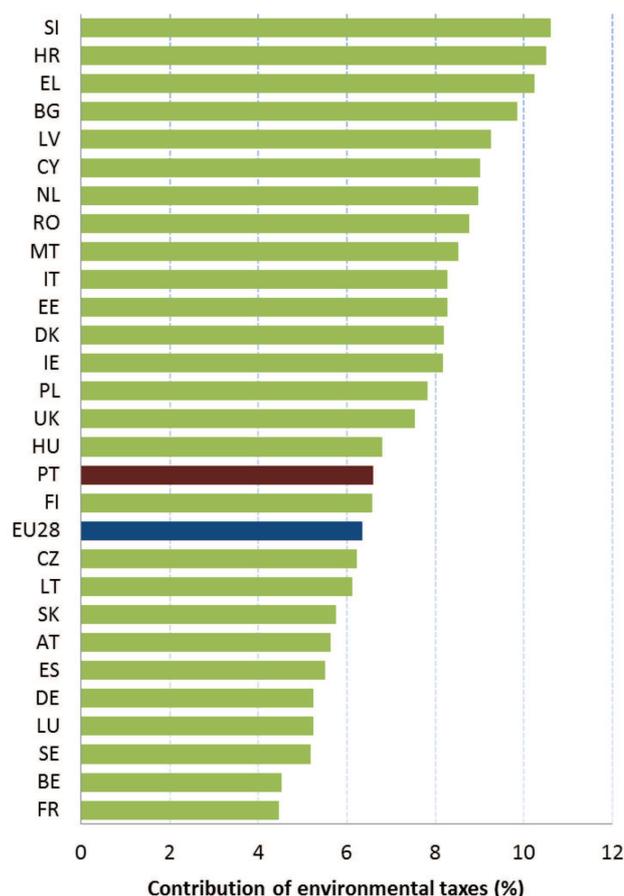
Environmental tax reform can play an important part in sustaining economic growth. Taxing pollution and resource use would bring in additional revenues, and at the same time it would help discouraging activities that will bring additional cost in the future in terms of clean up, health costs, etc. This additional revenue could also substitute for cuts in spending, therefore help achieving a similar net budgetary outcome.

At 2.25% of GDP in 2014, Portugal's level of environmental taxes is below the EU-28 average of 2.46%⁹³. This rate has slightly increased from 2.19% in

2013 and 2.14% in 2012. However, the 2012–2014 levels are below the 2002–2005 values (2.9% of GDP). In fact, revenues from environmental taxes have significantly decreased in Portugal during the last decade. Although the effects of the recent green taxation reform have still to be perceived, there is still clear scope to increase environmental taxes and alleviate the burden on labour.

Portugal with 6.59% of GDP is around the EU average (6.35%) regarding the share of environmental taxation in revenues from taxes and social contributions, as shown below.

Figure 11: Environmental tax revenues as a share of total revenues from taxes and social contributions (excluding imputed social contributions) in 2014⁹⁴



As recognized in 2014⁹⁵, the Commission for Green Tax Reform created by the Portuguese Government has been a positive initiative in order to improve environmental taxation in Portugal and the work of this committee of independent experts should be commended. Its objective was to review environmental and energy taxation

⁹² Annual Growth Survey 2016, p. 14.

⁹³ Eurostat, [Environmental tax revenues](#), accessed October 2016

⁹⁴ Eurostat, [Environmental tax revenues](#), accessed October 2016

⁹⁵ SWD(2014) 423 final, 2 June 2014.

regimes with a view to promoting a new green fiscal framework which incentivises eco-innovation and the efficient use of resources, as well as mechanism for the internalisation of environmental externalities. It also included the potential contribution to reducing external energy dependence and to inducing more sustainable production and consumption patterns.

The final report of this Commission, issued in September 2014, includes an in-depth analysis on this matter, with interesting findings and a series of recommendations on different sectors: energy, transport, water, waste, land planning, forests, biodiversity, etc. It also proposes global tax neutrality, aiming at ensuring tax progressivity, developing green accounting, boosting environmental information, developing helpful tools for the decision making process, enhancing environmental policies and streamlining environmental funding⁹⁶.

A limited number of these recommendations were taken on board by the Portuguese Government in its subsequent legislative proposal to the Portuguese Parliament.

In this respect, a 2016 study suggests that there is considerable potential for additional revenue from environmental taxes in Portugal⁹⁷. Under a good practice scenario⁹⁸ these taxes could generate an additional EUR 1.39 billion in 2018, rising to EUR 2.24 billion in 2030 (both in real 2015 terms). This is equivalent to 0.73% and 0.96% of GDP in 2018 and 2030, respectively.

The reduction of environmentally harmful subsidies (EHS) is another key challenge. Portugal is still subsidising fossil fuels, company cars, or diesel compared to petrol when the policy objectives could be achieved in a less environmentally harmful way.

The European Commission has highlighted the different challenges that Member States, including Portugal, face in relation to environmentally-related taxation⁹⁹.

In 2013 all Member States agreed to phase out EHS 'without delay'¹⁰⁰. Moving away from EHS can deliver economic, social and environmental benefits, allow for

improved competitiveness and support budget consolidation¹⁰¹. It is important to ensure that energy tax rates become more consistent across fuels and uses, and that the tax system does not unduly favour fossil-based solutions.

Furthermore, according to OECD, Portugal has a considerable potential for reducing a wide range of tax exemptions and reductions and phasing out EHS¹⁰².

There is scope to address the preferential treatment of diesel compared with petrol. The diesel-petrol differential is not justified from an environmental perspective: diesel emits higher levels of a number of air pollutants and should be taxed higher. The diesel differential in Portugal is 53% (a figure of 0% means the same level of taxation for petrol and diesel cars, i.e. no diesel differential)¹⁰³. Lower diesel tax led to "dieselisation" of the fleet in Europe.

The Report of the Commission for Green Tax Reform also identifies many EHS that need to be phased out. However, the pressure from the different interest groups benefiting from these EHS makes more difficult taking effective measures in this regard, and therefore the effects of such a reform need to be duly considered together with suitable alternatives for the disadvantaged categories.

In 2016, the Ministry of the Environment has created a working group to further develop the green taxation reform approved in 2014. This work should aim to deliver more incentives to green behaviour from 2017 onwards as well as to increase the share of environmental taxes, namely in fossil fuels.

Therefore, there is scope to continue the implementation of the "Green Tax Reform" and further develop the potential for environmental taxation and the reduction of EHS in Portugal.

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

⁹⁶ Final Report "[Projeto de Reforma da Fiscalidade Verde](#)", 15.09.2014.

⁹⁷ Eunomia Research and Consulting, IEEP, Aarhus University, ENT, 2016. [Study on Assessing the Environmental Fiscal Reform Potential for the EU28](#). 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.

⁹⁸ The good practice scenario means benchmarking to a successful taxation practice in another Member State.

⁹⁹ European Commission, 2015. [Tax Reforms in EU Member States 2015](#), Institutional Paper 008 Sept. 2015.

¹⁰⁰ 7th EU Environmental Action Programme.

¹⁰¹ See 2020 Milestone on phasing out EHS in the Roadmap to a Resource Efficient Europe (COM(2011) 571 final).

¹⁰² OECD [Companion to the Inventory of Support Measures for Fossil Fuels 2015](#)

¹⁰³ European Environment Agency 2016, [Environmental taxation and EU environmental policies](#), Table 4.3, p.24.

otherwise be procured.

The purchasing power of public procurement equals to approximately 14% of GDP¹⁰⁴. 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 criteria¹⁰⁵.

In Portugal GPP policy has been institutionalised since the introduction of the National Strategy for Green Public Procurement 2008-2010, which was adopted by the Council of Ministers in 2007.

A new national strategy for GPP (ENCPE 2020) has been approved by the Portuguese Government in July 2016¹⁰⁶. This strategy defines more precisely its scope, intending to have a broader and effective impact from the previous strategy, covering more acquisition procedures and thus potentiating its effect.

GPP criteria will be progressively developed at the national level on the basis of national and European studies on GPP criteria and products, taking into account Portugal's environmental objectives such as reducing greenhouse gas emissions.

The environmental criteria for 21 priority product groups constitute the main tools for the purposes of meeting the objectives of the strategy, and include these product groups: office buildings, electricity, imaging equipment, electrical and electronic equipment used in the health care sector, office IT equipment, indoor lighting, street lighting and traffic signals, waste water infrastructure, road design, construction and maintenance, furniture, wall panels, copying and graphic paper, combined heat and power (CHP), food and catering services, gardening products and services, cleaning products and services, water-based heaters, toilets and urinals, textiles, sanitary tapware and transport.

The 2020 National Strategy establishes targets applicable to the National System for Public Procurement, concerning most of the public bodies. For this group a target was set out, of integrating by 2020 environmental criteria in 60% of contracts as well as 60% of procurement value. In addition, the same targets are also established for the state owned companies, at a level of 40%.

¹⁰⁴ European Commission, 2015. [Public procurement](#)

¹⁰⁵ In the Communication "Public procurement for a better environment" ([COM \(2008\)400](#)) the Commission recommended the creation of a process for setting common GPP criteria. The basic concept of GPP relies on having clear, verifiable, justifiable and ambitious environmental criteria for products and services, based on a life-cycle approach and scientific evidence base.

¹⁰⁶ Resolution of the Council of Ministers No. 38/2016 of 29 July.

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)¹⁰⁷ 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 the EFSI¹⁰⁸ may also support implementation and spread of best practice.

Portugal is traditionally an important beneficiary of the EU Cohesion Policy.

Current data suggest that the EU funds for the 2007-2013 period were almost fully spent¹⁰⁹.

For the 2014-2020 programming period Portugal will also receive an important contribution from the 5 ESI Funds (see Figure 12, current prices):

- From the ERDF: EUR 10 773 million.
- From the Cohesion Fund: EUR 2 862 million.
- From the ESF: EUR 7 546 million.
- From the EARDF: EUR 4 058 million.
- From the EMFF: EUR 392 million.

The support of the EU funding has significantly contributed to improve the implementation of the EU environmental law and policy and Portugal.

The environmental investments have a similar weight within the EU Cohesion Policy in the current programming period compared to the previous one.

There is a national OP dedicated to environment: "Sustainability and Efficiency in the Use of Resources" (POSEUR), amounting to EUR 2.6 billion¹¹⁰ and concentrating environmental investments through the Cohesion Fund in Portugal. This OP aims to anticipate and adapt to the global changes in the field of energy, climate change and more efficient use of resources along a dynamic perspective that links competitiveness to sustainability, in accordance with the Europe 2020

¹⁰⁷ 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.

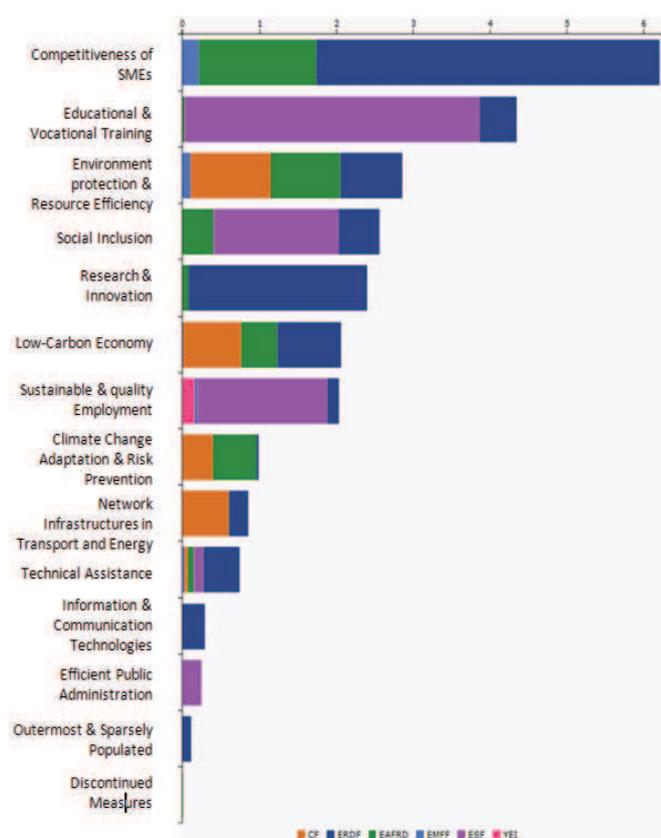
¹⁰⁸ European Investment Bank, 2016 [European Fund for Strategic Investments](#)

¹⁰⁹ Final data for the period 2007-2013 will only be available at the end of 2017.

¹¹⁰ Including the national co-financing part.

strategy.

Figure 12: European Structural and Investment Funds 2014-2020: Budget Portugal by theme, EUR billion¹¹¹



There are also two other national OPs on "Competitiveness and Internationalisation" and on "Technical Assistance". Moreover, there are seven regional OPs, which in this period are multi-funding, covering both ERDF and ESF, where environmental actions are also envisaged.

Moreover, it should be highlighted the various territorial cooperation ERDF OPs (transnational and cross-border cooperation) with the participation of Portugal where the environmental investments have a considerable weight.

In terms of environmental sectors, the main priorities in Portugal for ERDF 2014-2020 are: water (EUR 628 million), adaptation to climate change (EUR 415 million), waste (EUR 313 million), and rehabilitation of industrial sites and contaminated land (EUR 152 million).

The environmental integration has been ensured in the Partnership Agreement 2014-2020 and the different Operational Programmes for the five ESIF through the application of the Strategic Environmental Assessment

(SEA) Directive and by other means.

The two thematic environmental ex ante conditionalities (EAC) on Water and Waste were only partially fulfilled by Portugal at the moment of adoption of the Partnership Agreement 2014-2020 and therefore Action Plans were agreed with the Portuguese authorities in order to comply with all the criteria by end-2016¹¹².

The general environmental EAC on EIA/SEA (looking into the legal framework and the effective arrangements to comply with the environmental impact assessment rules) was considered as fulfilled by Portugal.

Portugal should take advantage of the ESIF available for the programming period 2014-2020 in order to improve the compliance with the EU environmental law and policy, as well as to use the potential of the green economy for competitiveness and job creation.

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

With regard to the integration of environmental concerns into the Common Agricultural Policy (CAP), the two key areas 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 second, to, ensuring an effective implementation of the first pillar of the CAP with regard to cross compliance and 1st pillar 'greening'. 30 % of direct payment envelope is 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.

For the Rural Development Programme of Mainland Portugal, the total EAFRD budget is some EUR 3584 million, with around 11.7% of budget allocated to the agri-environment-climate measure, much less than for the less environmentally focused Natural Constraints measure (20%). Natura 2000 land areas management relies largely on traditional and low intensive management either in agriculture, grazing or forestry, the comprehensive application of sound, effective and targeted support to specific farming and forestry practices is required and there is a potential risk to nature and biodiversity from afforestation, and from the large budgetary allocation for farm investments. Therefore this programme could be much better targeted on the environment.

¹¹¹ European Commission, [European Structural and Investment Funds Data By Country](#)

¹¹² The EAC Waste has already been fulfilled by Portugal.

For the Rural Development Programme of Madeira, the total EAFRD budget is EUR 180 million of which only 4.8% is allocated to the agri-environment-climate measure. Very low uptake for this measure on small farms was a problem from the past which does not appear to have been overcome; and problems with pesticides appear to remain. Afforestation using non-native species may be also a cause for environmental concern.

As to the Rural Development Program of Azores, its EARDF part, amounts to around EUR 295 million, out of which agri-environmental-climate measures represent 19.6%. Though having a higher proportion in the EARDF than for the rest of Portugal, the problems of invasive species are still of concern with prevalence of large areas of invasive flora in Natura 2000 areas putting pressure in their conservation objectives to achieve the favourable conservation status of protected species and habitats. Yet, the support under the main forestry measure aims at supporting well established industries of Cryptomeria and Eucalyptus species and other non-native species (Sequoiadendron, Sequoia etc). Contribution of RDP towards environmental objectives is non-targeted, non-ambitious, very limited and does not follow the intervention logic based on threats and weaknesses in environmental sphere. The forestry measure might represent, based on its implementation, environmentally harmful investments.

Portugal also benefits from the EU LIFE Programme, with numerous and interesting projects. It should be noted that Portugal has currently a LIFE capacity building project aiming to improve the overall Portuguese capacity for participation and use of the LIFE Programme, by increasing the number and quality of projects that are yearly presented to the Calls for Proposals.

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 skills¹¹³. 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 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

¹¹³ The Commission has work ongoing to improve the country-specific knowledge about quality and functioning of the administrative systems of Member States.

improve the delivery of benefits from that legislation, and the governance of the enforcement process.

Capacity to implement rules

It is crucial that central, 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 Portugal in 16th place out of the 28 Member States.¹¹⁴



Environmental policy developments in Portugal are mainly driven by EU Directives and Regulations, and the relevant EU rules are generally transposed in time. The number of complaints and infringements in the environmental field can be considered in the EU average.

Overall, during the last decade an improvement in the implementation of EU environmental law in the different sectors can be observed. For instance, there has been progress regarding the implementation of the environmental assessments. However a recent package of legislation aimed at speeding-up the licencing of the so called projects of national interest needs to be tested, mainly because it provides very tight deadlines for the carrying out of the assessment and the possibility of tacit approval of some procedural acts.

Coordination and integration

The Portuguese Government adopted in April 2015 the "Green Growth Commitment" (GGC). This strategy has its origin in the "Coalition for Green Growth" launched in February 2014. With a broad social support, the GGC

¹¹⁴ Charron N., 2013. [European Quality of Government Index \(EQI\)](#)

encompasses the entire scope of components pertaining to green growth (16 sectors), underpinned by quantitative targets for 2020 and 2030, and an extensive range of measures (111 measures).

The GGC initiated the discussion on the need to achieve a new national development model, aiming to comply with three major objectives by 2020: 1) to position Portugal as a global benchmark for green growth; 2) to promote a low-carbon economy, highly efficient in resource use; and 3) to produce more wealth and jobs by investing in sustainability of industries and territories.

The GGC brings stakeholders together in encouraging a transition to a more resource efficient and low-carbon economy. It is now essential to implement the numerous measures it includes¹¹⁵.

An evolution of the GGC was recently undertaken, bringing stakeholders to focus on the core of green growth: the Circular Economy. In this context, a new orientation was issued to the Coalition, to work on 5 sectors (industry, agriculture & forestry, built environment, transport and procurement) and on 5 strategies (dematerialization, eco-design and lifecycle extension, resource efficiency, symbiosis and recovery/recycling). Stakeholders were called to interact and build collaborative projects, intended to demonstrate the advantages and barriers in pursuing these initiatives. Coalition members welcomed this approach and the first results are expected by end-2017.

Regarding the implementation of EU environmental law, the competences are shared between the national administration and the regional and local administrations. The insular regions of Azores and Madeira have a special autonomy also in this field.

Impact assessments are important tools to ensure environmental integration in all government policies¹¹⁶. In the last years, Portugal has taken various measures to streamline the EIA process. The transposition of the revised EIA Directive¹¹⁷ will be also an opportunity to streamline the regulatory framework on environmental assessments. 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 2016¹¹⁸

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.

Portugal has recently created the Single Environment Permit (SEP) scheme¹¹⁹, which covers all main permits on the environment domain. The SEP aims to integrate, harmonise and simplify processes and procedures in order to facilitate their interpretation and application by interested parties and the administration itself, thus helping to minimise the impact of the dispersion of legislation and also to reduce bureaucracy related costs. It is also aims to strengthen cooperation between various bodies and services of the public administration which are legally competent in environmental matters. In any case, this new scheme must ensure high standards of environmental protection.

Suggested action

- The experience obtained on the definition and implementation of the mitigation and compensation measures regarding the dam projects should be extended to other infrastructure likely to have significant impacts on the Natura 2000 network. The composition of follow-up commissions for these projects should be as broad as possible and include representative NGOs.
- Effectively implementing and making use of the recently created initiatives in order to improve efficiency, effectiveness and coordination of the public sector in the environmental domain, namely improving information sharing and documentation exchange between public entities that are responsible for inspection and monitoring in the areas of Agriculture, Sea and Environment, with an operational platform.

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

¹¹⁵ [European Semester 2016 Portugal Country Report](#), p. 58.

¹¹⁶ 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."

¹¹⁷ The transposition of Directive 2014/52/EU is due in May 2017.

¹¹⁸ European Commission, 2016. Commission notice — [Commission guidance document on streamlining environmental assessments conducted under Article 2\(3\) of the Environmental Impact Assessment](#)

[Directive \(Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU\).](#)

¹¹⁹ Decree-Law 75/2015

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 law¹²⁰ 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.

Figure 13: Environmental compliance assurance



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, *EUFJE*¹²², *ENPE*¹²³ and *EnviCrimeNet*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 provides a means of ensuring that the "polluter-pays principle" is applied when there are accidents and incidents that harm the environment.

¹²⁰ European Union, [Environmental Crime Directive 2008/99/EC](#)

¹²¹ [European Union Network for the Implementation and Enforcement of Environmental Law](#)

¹²² [European Union Forum of judges for the environment](#)

¹²³ [The European Network of Prosecutors for the Environment](#)

¹²⁴ [EnviCrimeNet](#)

¹²⁵ European Union, [Environmental Liability Directive 2004/35/CE](#)

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 evaluation¹²⁶.

Over the last decade, Portugal has improved the effectiveness of environmental compliance assurance, in particular inspections. The implementation of the Portugal's administrative simplification programme has led to a greater use of risk-based approaches and more systematic data collection¹²⁷. The IMPEL IRAM risk assessment methodology is widely used¹²⁸. Some compliance promotion campaigns have been organized. The General Inspection for Agriculture, Sea, Environment and Spatial Planning (IGAMAOT)¹²⁹ established a database on regulated industrial installations and relevant inspection activities that include also other sectors that have to comply with environmental obligations such as animal farms (intensive livestock), infrastructures and constructions, hospitals, waste management sites and transportation, wastewater treatment plants, agriculture¹³⁰ and uses a geographic information system for analyzing, planning and prioritizing inspections¹³¹. There is a system for performance evaluation which uses not only input and output indicators but also some outcome indicators related to state of the environment parameters¹³².

¹²⁶ [COM\(2016\)204 final](#) and [COM\(2016\)121 final](#) 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.

¹²⁷ OECD Environmental Performance Report Portugal 2011, p. 64.

¹²⁸ Portugal indicated that risk assessment is applied in sectors such as wastewater treatment plants (taking into account water quality), Seveso and IPPC installations (taking into account its location in or nearby sensitive areas, which includes nature protected sites) and that IGAMAOT is currently expanding its use to other areas such as trans-boundary shipments of wastes.

¹²⁹ Together with the Service for Nature and Environmental Protection (SEPNA) which is part of the Internal Administration Ministry, IGAMAOT is the main authority in charge of assuring compliance with environmental obligations.

¹³⁰ This database (GESTIGAOT) includes inter alia inspections reports which are available for internal consultation but in general not to the wider public. A compilation of the main findings of inspections to sectors are available on the Annual Activity reports but also specific reports, available to the public at <https://www.igamaot.gov.pt/relatorios/>. IGAMAOT transferred this information to a new database named SGI. According to the type of installations the inspection reports are sent to public authorities that have competences on assuring compliance with environmental obligations or its permitting..

¹³¹ IMPEL IRI Portugal, p. 33.

¹³² IMPEL IRI Portugal, p. 31.

Some reports have shown that there are shortcomings in relation to:

- data-collection arrangements to track the use and effectiveness of different compliance assurance interventions outside the area of industrial installations;
- 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 installations¹³³, in particular in 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 and point sources of pollution;
- how the Portuguese authorities ensure a targeted and proportionate response to different types of non-compliant behaviour, given evidence of the limited effectiveness of sanctions¹³⁴.

To remediate the above-mentioned gaps, the IGAMEOT is putting in place different measures, like a new data-base, new units and various publications.

Portugal is active within IMPEL and has undergone an IMPEL peer review.

Although the added value of cooperation and coordination with other authorities with relevant functions is recognized and some formal cooperation agreements are in place, there is a perception of need for more systematic use of joint inspections and for measures to ensure effective inter-action between environmental inspectors and prosecutors¹³⁵. In this context, Portuguese authorities namely the Portuguese Environment Agency, the Institute of Nature Conservation and Forests, the IGAMAOT, the Secretary-General of the Environment Ministry, the Public Prosecutor's Office, the Regional Direction of Environment and Spatial Planning of the Madeira and the Regional Inspection for Environment of the Azores, have created a Portuguese IMPEL Network, with the aim to contribute to the improvement of implementation of environmental law.

For the period 2007-2013, Portugal reported two confirmed cases of environmental damage dealt with

under the Environmental Liability Directive, and several cases where preventive measures were applied. It has established several support mechanisms, including guidance, a consultative council and a standing committee. It is actively promoting the Directive via awareness-raising and information campaigns for stakeholders and training for competent authorities (it participates extensively in the Commission's training programme for the Directive). Portugal has established mandatory financial security and the country reports that the Directive contributes to operators being more aware of environmental risks and of the importance of reducing them.

Suggested action

- Improve transparency on the organisation and functioning of compliance assurance and on how significant risks are addressed.
- Encourage greater participation of competent authorities in the activities of ENPE, EUFJE and EnviCrimeNet.

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 ("the Aarhus 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. The Commission intends to examine compliance with mandatory public participation requirements more systematically at a later stage.

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.

Portugal grants the public, notably individuals and NGOs, a very broad access to justice in environmental cases. The costs for bringing a case to a court are also not

¹³³ Portugal's progress on risk-based compliance assurance focuses primarily on industrial inspections; risk assessment is not always aligned with strategic environmental objectives and does not cover all relevant environmental policy subject-areas, see IMPEL IRI Portugal, p. 36 and 38.

¹³⁴ In terms of response to detected non-compliance, the focus is mainly on administrative procedures and sanctions in respect of which problems with collection of imposed fines and lack of sufficient resources has been observed see OECD Environmental Performance Report Portugal 2011, p. 66-67.

¹³⁵ OECD Environmental Performance Report Portugal 2011, p. 65 and IMPEL IRI Portugal, p. 37.

prohibitively high. This guarantees that members of the public are provided with good conditions for asking for a judicial review in environmental matters. However, the court procedures, including environmental cases in Portugal are rather long¹³⁶.

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 Convention¹³⁷, the Access to Environmental Information Directive¹³⁸ and the INSPIRE Directive¹³⁹ 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 Plan¹⁴⁰. 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.

Portugal's performance on the implementation of the INSPIRE Directive as enabling framework to actively

disseminate environmental information to the public leaves room for improvement. Portugal has indicated in the 3-yearly INSPIRE implementation report¹⁴¹ 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 but not fully implemented. Portugal has no common data-sharing policy and several licenses are being used to regulate the access and use to spatial information. In many cases fees are applied. Portugal has expressed the ambition to work on a simplified data-sharing policy promoting the free access to and use of public sector spatial data. The need for recoverability of investments in data acquisition and management in many public administrations is the biggest bottleneck to address on the way to open data.

Assessments of monitoring reports¹⁴² issued by Portugal and the spatial information that Portugal has published on the INSPIRE geoportal¹⁴³ indicate that not all spatial information needed for the evaluation and implementation of EU environmental law has been made available or is accessible. The larger part of this missing spatial information consists of the environmental data required to be made available under the existing reporting and monitoring regulations of EU environmental law.

Moreover, the new Single Environment Permit (SEP) scheme could help to strengthen the transparency and responsibility of business owners and other intervening bodies by organising and standardising all the environmental information applicable to an establishment or activity.

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.

¹³⁶ See [Study on access to justice in environmental matters 2012/2013](#)

¹³⁷ UNECE, 1998. [Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters](#)

¹³⁸ European Union, [Directive 2003/4/EC on public access to environmental information](#)

¹³⁹ European Union, [INSPIRE Directive 2007/2/EC](#)

¹⁴⁰ European Union, EU eGovernment Action Plan 2016-2020 - Accelerating the digital transformation of government [COM\(2016\) 179 final](#)

¹⁴¹ European Commission, [INSPIRE reports](#)

¹⁴² [Inspire indicator trends](#)

¹⁴³ [Inspire Resources Summary Report](#)