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The EU Environmental Implementation Review Country Report - CYPRUS

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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Cyprus 2

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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.

General profile

Environmental implementation represents a challenge

for Cyprus. Poor waste management performance, with high waste generation, low recycling rates and strong dependence on landfilling, including in illegal facilities, is one of the main concerns. Improving water management and putting in place a water pricing policy in accordance with the Water Framework Directive covering a broad range of water services is of great significance for Cyprus, with over-abstraction of groundwater and water scarcity being major challenges. Its rich natural environment and biodiversity is one of the country's strongest assets. However, in many cases of infrastructure development in protected areas it can be observed that the necessary assessments as foreseen by European and national legislation are not carried out appropriately. This weakens legal certainty, slows down projects and can lead to significant environmental damage, such as fragmentation or degradation of these areas and significant endangerment of protected species. Finally, one of the most persistent problems is that of the widespread practice of illegal trapping of wild birds, especially migratory.

Main Challenges

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

- Better protecting Natura 2000 areas from incompatible activities or developments that fragment or degrade them, by ensuring that all necessary assessments are carried out properly before the approval of a project, and that the necessary mitigation measures are formally approved and properly applied. Enhancing policies and enforcement actions to eliminate illegal bird trapping.
- Eliminating illegal landfilling of waste and putting in place the necessary infrastructure for waste management, while paying particular attention to avoiding creating over-capacity of installations for the treatment of residual waste.
- Improving water management in order to effectively tackle problems such as water scarcity and overabstraction.

Main Opportunities

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

 Move away from landfilling by focusing policies and investments on the implementation of the separate

¹ Communication "Delivering the benefits of EU environmental policies through a regular Environmental Implementation Review" (<u>COM/2016/316 final</u>).

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. <u>The Sustainable Development Goals</u>

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

collection obligation to increase recycling rates, particularly by making more efficient use of economic instruments.

- Safeguard the country's natural capital, especially under the Natura 2000 network, and promote green tourism, which can bring about significant economic benefits.
- Enhance investments in eco-innovation, aligning promoted activities to the country's environmental needs (e.g. water scarcity, improving recycling) and to its natural capital (e.g. potential for development of renewable energy).

Points of Excellence

Where Cyprus is a leader on environmental implementation, innovative approaches could be shared more widely with other countries. Good examples are:

- According to the EEA Report 'European Bathing Water quality in 2015', out of 113 bathing waters in Cyprus 99.1% were of excellent quality.
- The Natura 2000 network in Cyprus covers 28.8% of the land area, which is one of the highest percentages in the EU (EU average 18.1%), with Birds Directive SPAs covering 26.7% (EU average 12.3%).

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

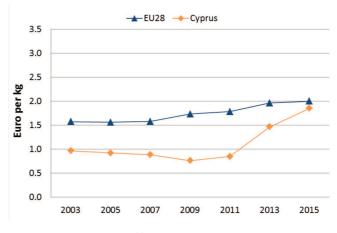
Transforming our economies from linear to circular offers an opportunity to reinvent them and make them more sustainable and competitive. This will stimulate investments and bring both short and long-term benefits for the economy, environment and citizens alike⁵.

Cyprus is performing below EU average in terms of resource productivity⁶ (how efficiently the economy uses material resources to produce wealth), with 1.85 EUR /kg (EU average is 2 EUR/kg) in 2015. Figure 1, however, shows a significant increase of resource productivity since 2011, having almost reached EU average in 2015.

There is no overarching policy framework for the Circular Economy in Cyprus. Policy and funding measures and mechanisms promoting circular economy still largely depend on co-financing through the European Structural and Investment Funds (ESIF).

The ESIF for the period 2014-2020 are funding research activities, including the Energy, Environment and Water Research Centre (EEWRC), which carries out research in the areas of Solar Energy and Desalination, Climate Change and Impact, Environmental Research and Monitoring, Water Research and Management and Sustainability and Built Environment.

Figure 1: Resource productivity 2003-15⁷



SMEs and resource efficiency

There is significant room for improvement; especially in crucial areas such as entrepreneurship and 'responsive administration'. Steps to this direction have already been taken under the National Policy Statement on the Enhancement of the Entrepreneurial Ecosystem, approved by the Council of Ministers in December 2015 and currently under implementation. Further measures promoting waste management and renewable energy use for SMEs are urgently needed. The Flash 426 Eurobarometer "SMEs, resource efficiency and green markets" defines "green job" as a job that directly deals with information, technologies, or materials that preserves or restores environmental guality. It shows that 35% of the SMEs in Cyprus have one or more full time employee working in a green job at least some of the time. Cyprus has an average number of 1.4 full time green employees per SME.

Eco-Innovation

Despite significant improvement, Cyprus continues to perform poorly in eco-innovation. The country scored 60 in 2015 compared to a score of 44 in the 2013 assessment (EU average = 100) as shown in Figure 2. This places the country third from the bottom in the EU28 eco-innovation ranking. Cyprus promotes eco-innovation through measures promoting entrepreneurial innovation in general. The measures promoting innovation are common due to their interrelation, the available

⁵ European Commission, 2015. <u>Proposed Circular Economy Package</u>

⁶ Resource productivity is defined as the ratio between gross domestic product (GDP) and domestic material consumption (DMC).

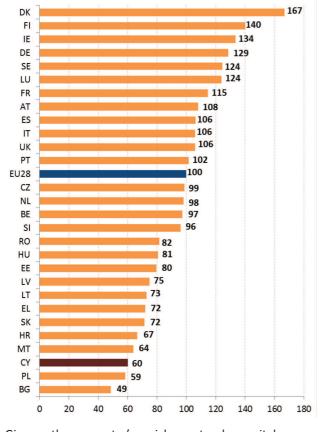
⁷ Eurostat, <u>Resource productivity</u>, accessed October 2016

synergies and above all due to Cyprus' small size, which does not allow for the development and running of many specialized support schemes. The entrepreneurial support scheme (developing innovative products and services) has subsidized six eco innovation projects (two on inclusive growth, one on reuse of waste materials and three on reducing waste).

Eco-innovation in Cyprus is dominated by individual actors – research institutes or enterprises. As such, there are no distinct and fully developed eco-innovation sectors.

A number of EU funded research and innovation projects in the field of eco-innovation are currently under implementation. In particular, the LIFE+ instrument supported a total of 11 projects, which cover issues such as waste management, industrial waste, water management at the scale of the river basin, air quality, climate change and industry-production.

Figure 2: Eco-Innovation Index 2015 (EU=100)⁸



Given the country's rich natural capital, new developments in renewable energies could promote ecoinnovation activities. The agricultural and food industries can also contribute to eco-innovative solutions: waste treatment in olive oil production; compost produced from recycled plants (such as lawn, garden clippings, tree leaves, vine leaves etc.); biological waste treatment (that turns biodegradable waste into either high quality compost or Solid Recovered Fuel); advanced glasshouses for producing exotic flowers; organic and energy efficient production of wine and olive oil etc.

The present economic climate does not encourage investments in eco-innovation. Public spending for R&D has been put on hold, while traditionally business spending for R&D in Cyprus is anyway low. However, the financial situation is expected to improve following the exit of the country from the austerity plan in March 2016.

Cyprus has 76 EMAS registered organisations, which represents 1.8% of all registered organisations. Cyprus has increased its number of registrations, particularly during the period between 2009 and 2012 by more than tripling its numbers, while in 2015 the Department of Environment was also included in the EMAS register following the verification of its environmental management system.

Suggested action

• Enhance investments in eco-innovation, aligning promoted activities to the country's environmental needs (e.g. water scarcity, improving recycling) and to its natural capital (e.g. potential for development of renewable energy).

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.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/WPP⁹ should be the key items to measure the

⁸ <u>Eco-innovation Observatory</u>: Eco-Innovation scoreboard 2015

⁹ Waste Management Plans/Waste Prevention Programmes

performance of Member States. This section focuses on management of municipal waste¹⁰, for which EU law sets mandatory recycling targets.

In Cyprus, although municipal waste generation has decreased over the years, it still remains significantly higher than the EU average (617 kg/y/inhabitant compared to around 475 kg on average in 2014) as shown in Figure 3.

Figure 3 depicts the municipal waste treatment in Cyprus in terms of kg per capita, which shows a decrease in landfilling and an increase of recycling and composting.

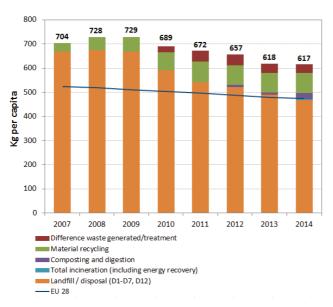
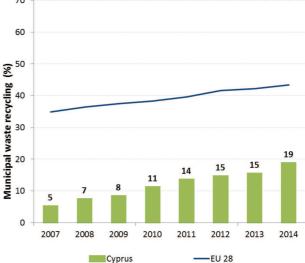


Figure 3: Municipal waste by treatment in Cyprus 2007-14¹¹

Cyprus landfills the majority of its municipal waste (80%, compared to the EU-average of 28%). Recycling accounts for 19%, including 4% of composting, which is significantly below the EU average (44%).

Figure 4 shows that Cyprus must strongly invest in recycling in the coming years in order to reach the 2020 recycling target¹².





There is scope to step up efforts to develop separate collection at source, combined with the required facilities to ensure a high level of recycling/composting. A reduction of landfilling can be observed; however, this is happening at a very slow pace. Two illegal landfills remain operational in the territory. The 2010 target for the diversion of biodegradable municipal waste from landfills was not met and the minimum quantity allowed to be disposed was exceeded by 64%. In light of the ongoing review of the landfill restrictions for municipal waste, additional significant efforts will have to be undertaken in order to limit landfilling only to residual waste by 2030 (max. 10%)¹⁴.

There are no landfill taxes in place in Cyprus. Limited producer responsibility (EPR) (few waste streams covered) or equivalent systems are in place and those are not able to cover the full costs of separate collection and recycling of the main waste streams. There are no incentive systems to favour prevention and participation in separate collection and very limited incentives have been provided so far for local authorities to develop separate collection systems. The use of EU funds could be more focused on activities higher up the waste hierarchy and avoid creating installations with more capacity than necessary for the treatment of residual waste. As soon as separate collections are in place, Pay-As-You-Throw (PAYT) schemes could be encouraged and generalised at local level. One PAYT pilot currently runs in one of the municipalities and has so far had encouraging results.

Cyprus has been taking steps in the right direction in 2015, by improving separate collection and recycling

¹⁰ 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.

¹¹ Eurostat, <u>Municipal waste and treatment, by type of treatment</u> <u>method</u>, accessed October 2016

¹² Member States may choose a different method than the one used by ESTAT (and referred to in this report) to calculate their recycling rates and track compliance with the 2020 target of 50% recycling of municipal waste.

¹³ Eurostat, <u>Recycling rate of municipal waste</u>, accessed October 2016

¹⁴ European Commission, (COM(2015)595, 594)

rates. However, managing waste efficiently and fulfilling the obligations from the EU Directives on waste remains a challenge. The updated national Waste Management Plan (for municipal waste only) and the Waste Prevention Programme were approved by the Council of Ministers in November 2015 - their absence had resulted in the selfsuspension of EU funds for the 2014-2020 programming period. However, other waste streams are still not covered by a national Waste Management Plan and this is expected to happen by the end of 2016.

In order to help bridge the implementation gap in Cyprus, the Commission has delivered a roadmap for compliance¹⁵.

Preventing and reducing waste generation together with the necessary increase in reuse and recycling could improve the resource efficiency of the Cypriot economy, increase business opportunities and provide jobs in the recycling sector. Full implementation of the existing legislation could create more than 2.000 jobs in Cyprus and increase the annual turnover of the waste sector by over EUR 200 million. Moving towards the targets of the Roadmap on Resource Efficiency which outlines how we can transform Europe's economy into a sustainable one by 2050, could create over 2.400 additional jobs and increase the annual turnover of the waste sector by over EUR 250 million. ¹⁶



Suggested action

- Finalise the work on removing the two remaining illegal landfills.
- Introduce and gradually increase landfill taxes to phase-out landfilling of recyclable and recoverable

waste. Use the revenues to support the separate collection and alternative infrastructure in conjunction with a better allocation of the cohesion policy funds to the first steps of waste hierarchy. Avoid building excessive infrastructure for the treatment of residual waste.

- Focus on implementation of the separate collection obligation to increase recycling rates, particularly by making more efficient use of economic instruments (such as PAYT schemes).
- Extend and improve the cost-effectiveness, monitoring and transparency of existing EPR schemes.

¹⁵ Support to Implementation – <u>The Commission helps 8 Member States</u> to improve their municipal waste management. Country factsheet for <u>Cyprus</u>

¹⁶Bio Intelligence service, 2011. <u>Implementing EU Waste legislation for Green Growth</u>, 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.

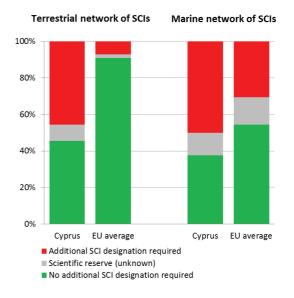
The 1992 EU Habitats Directive and the 1979 Birds Directive are the cornerstone of the European legislation aimed at the conservation of the EU's wildlife. Natura 2000, the largest coordinated network of protected areas in the world, is the key instrument to achieve and implement the Directives' objectives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

The adequate designation of protected sites as Special Ares of Conservation (SAC) under the Habitats Directive and as Special Protection Areas (SPA) under the Birds Directive is a key milestone towards meeting the objectives of the Directives. The results of Habitats Directive Article 17 and Birds Directive Article 12 reports and the progress towards adequate Sites of Community Importance (SCI)-SPA and SAC designation¹⁷ both in land and at sea, should be the key items to measure the performance of Member States.

An area of 28.8% of the national land of Cyprus (area under government control) is designated as Natura 2000 (EU average 18.1%), where designation under the Birds Directive SPAs covers 26.7% (EU average 12.3%) and designation under the Habitats Directive SCIs covers 13.49% (EU average 13.8%). Cyprus has designated so far 63 Natura 2000 sites, including 40 SCIs and 30 SPAs. There are 7 Natura 2000 sites designated for both Habitats and Birds Directives covering the same area.

The terrestrial part of the Natura 2000 network can be considered almost complete. However, despite its large coverage on land, according to the conclusions of the biogeographical seminar for the Mediterranean region the Cypriot Natura 2000 network still presents significant insufficiencies at sea, especially in the offshore marine areas, both for SCIs and SPAs¹⁸ (see Figure 5¹⁹.).





For 36 SCIs the 6-year deadline laid down by the Habitats Directive for designating these as Special Areas of Conservation (SACs) and establishing appropriate conservation objectives and measures expired in early 2016. However, only 3 SCIs have been designated as SACs so far, based on the last Art. 17 Habitats Directive report of Cyprus. Information provided by the member state suggest that there are now 40 SCIs and according to the provision of Article 6 of the Habitats Directive there are 26 designated SACs so far, and 4 SAC areas for which a Ministerial Decree included the necessary conservation measures.

Management plans have been drawn up for most of the

¹⁷ 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.

¹⁸ 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. <u>The current data</u>, which were assessed in 2014-2015, reflect the situation up until December 2013.

¹⁹ The percentages in Figure 5 refer to percentages of the total number of assessments (one assessment covering 1 species or 1 habitat in a given biographical region with the Member State); if a habitat type or a species occurs in more than 1 Biogeographic region within a given Member State, there will be as many individual assessments as there are Biogeographic regions with an occurrence of that species or habitat in this Member State.

²⁰ European Commission, internal assessment.

SCI/SAC areas and are underway for the SPAs which are to be finalized by the end of 2016. Consequently Ministerial Decrees have been adopted for enacting management plans including ministerial decrees for 4 SAC areas, as well as a horizontal ministerial decree for all areas thus including measures and actions regarding the protection of the areas and the integration with the Common Agricultural Policy (Rural Development Plan 2014-2020) as well as integration through measures that have been considered for the 2nd River Basin Management Plan (Water Framework Directive).

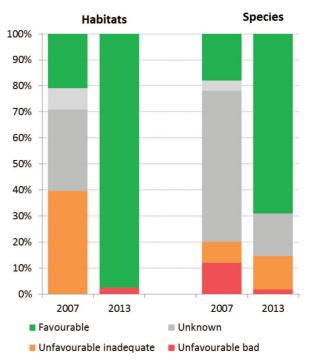
A major challenge to the effective management of the Natura 2000 areas is their protection from incompatible activities or developments that fragment or degrade them, especially within private land. Regarding the development of projects and plans affecting Natura 2000 sites there is a recurrent issue caused by the lack of a sound procedure for applying the Appropriate Assessments under Art. 6 of the Habitats Directive, which is reflected in several complaints and infringement cases (where no or inadequate assessments have been carried out).

The sound management of areas is also undermined by the lack of understanding and acceptance of nature sites by several local communities and land-owners. This is important because a significant part of designated Natura 2000 areas (mainly agricultural land) in Cyprus is private land.

Another important challenge for implementing nature legislation is the persisting problem of illegal trapping of wild birds, especially migratory birds, with the use of nets, lime-sticks and sound producing devices. Although progress has been made in comparison to 10 years ago, the trapping numbers still remain at unacceptably high levels at over one million a year. Illegal consumption in restaurants also remains an issue.

According to the latest report on the conservation status of habitats and species covered by the Habitats Directive²¹, 98% of the habitats' biogeographic assessments were favourable in 2013 (EU 27: 16 %). Furthermore, 0% are considered to be unfavourable–inadequate²² (EU27: 47%) and 2% are unfavourable – bad (EU27: 30%). As for the species, 69% of the assessments were favourable in 2013 (EU 27: 23%) 13% at unfavourable-inadequate (EU27: 42%) and 2% unfavourable-bad status (EU27: 18%). This is depicted in Figure 6²³.





As shown in Figure 7, according to the official report under Article 12 of the Birds Directive²⁵, 74% of the breeding species and wintering species showed short-term increasing or stable population trends.

Figure 7: Short-term population trend of breeding and wintering bird species in Cyprus in 2012 (%)²⁶

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.

²¹ The core of the 'Article 17' report is the assessment of conservation status of the habitats and species targeted by the Habitats Directive.

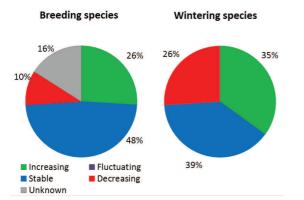
²² Conservation status is assessed using a standard methodology as being either 'favourable', 'unfavourable-inadequate' and 'unfavourable-bad', based on four parameters as defined in Article 1 of the Habitats Directive.

²³ Please note that a direct comparison between 2007 and 2013 data is complicated by the fact that Bulgaria and Romania were not covered

²⁴ 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 <u>Cyprus</u>

²⁵ Article 12 of the Birds Directive requires Member States to report about the progress made with the implementation of the Birds Directive.

²⁶ Article 12 of the Birds Directive reporting - national summary of Cyprus



Cyprus is a biodiversity hotspot area with a mosaic of biotopes, extensive natural coniferous forests and expansion of phrygana²⁷, traditional cultivated orchard trees and vineyards, which constitute important habitats for rare species.

Pressures on biodiversity arise from urbanisation and developments, isolated and scattered coastal development, tourism and recreation projects (golf courses, marinas), wind turbine and photovoltaic parks, road and electricity infrastructure in wildness areas, fragmentation and land use changes. Land use changes and soil sealing have particularly high and increasing impacts.²⁸ Cyprus is facing a challenge since private land is very expensive and therefore there is a struggling procedure for managing private land in situations where nature and development are in conflict and this has led to slow resolution of infringements.

The forests of Cyprus are an important national resource and the forest sector is subject to pressures coming mainly from development and climate change. Forests – private and state-owned - cover an area of 172,535 hectares (18.65% of the total area of the island) and Other Wooded Land -private and state-owned - an area of 213,859 hectares or 23.12%, including phrygana formations.

Extent of forest and other wooded land					
FRA 2005 categories	Area (1000 hectares)				
FRA 2005 Calegories	1990	2000	2005		
Forest	161	173	174		
Other wooded land	-	214	214		
Forest and other wooded land	161	387	388		
Other land	-	537	536		
of which with tree cover	-	-	26		

²⁷Phrygana or garrigue is a type of low, soft-leaved scrubland ecoregion and plant community in the Mediterranean forests, woodlands, and scrub biome.

Extent of forest and other wooded land					
	Area (1000 hectares)				
FRA 2005 categories	1990	2000	2005		
Total land area	922	924	924		
Inland water bodies	1	1	1		
Total area of country	925	925	925		

So far Cyprus has not started working on the EU initiative on Mapping and Assessment of Ecosystems and their Services²⁹, but has participated in 2 workshops (MESEU and ESMERALDA) on the creation and evaluation of mapping and evaluation of ecosystem services.

Suggested action

- Complete SCI and SPA designations, especially in offshore marine waters. Available funds from the Maritime and Fisheries Fund are to be used for covering knowledge gaps on marine waters. Complete the SAC designation process and put in place clearly defined conservation objectives and the necessary conservation measures for the sites and provide adequate resources for their implementation in order to maintain/restore species and habitats of community interest to a favourable conservation status across their natural range.
- Build the capacity of the administration in order to improve Appropriate Assessment procedures and prevent deterioration of Natura 2000 sites from damaging developments. Enhance awareness-raising (among authorities, stakeholders, land owners, public) as regards Natura 2000 and its benefits. Strengthen communication with stakeholders.
- Step up efforts to eliminate illegal bird trapping, in cooperation with all parties involved.
- Take part and provide support to the mapping and assessment of ecosystems and their services, evaluation and development of natural capital accounting systems.



²⁹ Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends.

²⁸ 5th National Report to the CBD

Green Infrastructure

The EU strategy on green infrastructure³⁰ 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.

Cyprus has focused on the protection of Natura 2000 areas for habitats and species, as well as the connectivity of the network. Landscape elements have been incorporated in the Rural Development Plan (2014-2020) for protection, conservation and rehabilitation.

Cyprus has formulated National Action Plans on Climate Change, Desertification and Biodiversity. All three plans include measures for the conservation and restoration of habitats' function and structure, in order to reverse biodiversity loss, adapt to climate change, combat desertification and integrate biodiversity into other sectors, policies and strategies.

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.

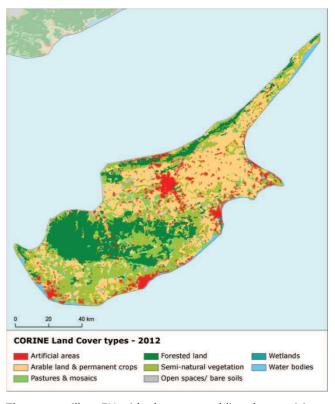
Soil is an important resource for life and the economy. It provides key ecosystem services including the provision of food, fibre and biomass for renewable energy, carbon sequestration, water purification and flood regulation, the provision of raw and building material. Soil is a finite and extremely 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 0.58% in Cyprus over the period 2006-12, above the EU average (0.41%). It represented 471 hectares per year and was mainly driven by housing, services and recreation³¹.

The soil erosion rate in 2010 was 2.89 tonnes per hectare per year, close to EU-28 average (2.46 tonnes)³². Soil erosion is also one of the priority sectors under the National Climate Change Adaptation Plan. Figure 8 shows the different land cover types in Cyprus in 2012.

Figure 8: Land Cover types in Cyprus in 2012³³



There are still no 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 Cyprus and other EU

³⁰ European Union, Green Infrastructure — Enhancing Europe's Natural Capital, <u>COM/2013/0249</u>

³¹European Environment Agency <u>Draft results of CORINE Land Cover</u> (CLC) inventory 2012; mean annual land take 2006-12 as a % of 2006 artificial land.

³²Eurostat, <u>Soil water erosion rate</u>, Figure 2, accessed November 2016

³³European Environment Agency, Land cover 2006 and changes country analysis [publication forthcoming]

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)³⁴ aims to achieve Good Environmental Status (GES)³⁵ 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 GES 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.

The Mediterranean Sea region has been identified by the EEA in its 2015 State of the Environment report as one of the main climate change hotspots (i.e. one of the areas most responsive to climate change) due to water scarcity, concentration of economic activities in coastal areas, and reliance on climate-sensitive agriculture. The introduction

of invasive alien species presents an important threat, especially for Cyprus due to its proximity with the Suez Canal, with the number of invasive alien species increasing significantly since 1970. Finally, the unique biodiversity of the Mediterranean Sea Region is also threatened by pollution from land-based sources, such as discharges of excess nutrients and hazardous substances, marine litter, over-fishing and degradation of critical habitats.

In its implementation of the MSFD, Cyprus has set GES for nearly all descriptors, but in a way that is too general. There is no systematic use of the 2010 Commission Decision criteria and indicators when setting Good Environmental Status, there is lack of clarity in what constitutes Good Environmental Status and what the environmental targets and associated indicators are³⁶. It is therefore too early to conclude whether Cypriot marine waters are in a good status, as there were weaknesses in identifying what GES is in the first place.

Cyprus also established a monitoring programme of its marine waters in 2014. However, it seems that its monitoring sub-programmes for biodiversity, nonindigenous species, hydrographical changes, contaminants, marine litter and underwater noise need further refinement and development to constitute an appropriate framework for monitoring progress towards GES³⁷. Marine ecosystems and biodiversity are also covered by the National Climate Change Adaptation Plan.

In 2012, Cypriot marine protected areas covered 131.4 square kilometres of its marine waters in the Aegean and Levantine Sea 38 .

In its reports on the implementation of the MSFD³⁹, the Commission has provided guidance to assist Cyprus in its implementation of the MSFD.

Suggested action

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

³⁴European Union, <u>Marine Strategy Framework Directive 2008/56/EC</u>

³⁵ 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"

³⁶ 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" (<u>SWD(2014)049 final</u> and <u>COM(2014)097</u> <u>final</u>)

³⁷ 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)

³⁸ 2012 Data provided by the European Environmental Agency to the European Commission – Not published

³⁹ 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" <u>COM(2014)097</u>

- Further develop approaches assessing (and quantifying) impacts from the main pressures in order to lead to improved and more conclusive assessment results for 2018 reporting.
- Continue to integrate existing monitoring programmes required under other EU legislation and to implement other joint monitoring programmes, where they exist, developed at (sub)regional level, for instance by the Barcelona Convention.
- Enhance comparability and consistency of monitoring methods within its marine region.
- Urgently report and implement its programme of measures⁴⁰.
- Ensure that its monitoring programme is appropriate to monitor progress towards its GES.
- Ensure that the monitoring programme is implemented without delay, and is appropriate to monitor progress towards its GES.

⁴⁰ As of 7.10.2016, CY had not yet reported its programme of measures to the Commission

3. Ensuring citizens' health and quality of life

Air quality

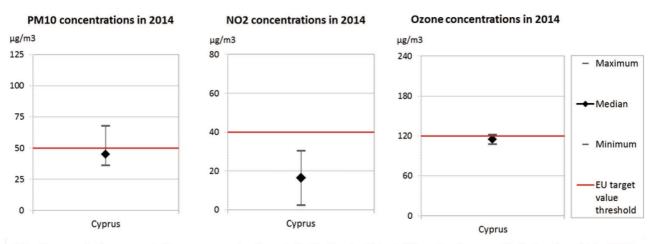
The EU Clean Air Policy and legislation require that air quality in the Union is significantly improved, moving closer to the WHO recommended levels. Air pollution and its impacts on ecosystems and biodiversity should be further reduced with the long-term aim of not exceeding critical loads and levels.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

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

oxides⁴⁴ increased by 1%, the total emissions are still within the currently applicable ceiling.

Air quality in Cyprus is reported to be generally good, with exceptions. Nevertheless, for the year 2013, the European Environment Agency estimated that about 450 premature deaths were attributable to fine particulate matter⁴⁵ concentrations, and a further 30 to ozone⁴⁶ concentrations.⁴⁷ Figure 9⁴⁸ depicts the attainment situation for PM₁₀, NO₂ and ozone in 2014⁴⁹.

For 2014, exceedances above the EU air quality standards



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.

The EU has developed a comprehensive suite of air quality legislation⁴¹, which establishes health-based standards and objectives for a number of air pollutants. As part of this, Member States are also required to ensure that up-to-date information on ambient concentrations of different air pollutants is routinely made available to the public. In addition, the National Emission Ceilings Directive provides for emission reductions at national level that should be achieved for main pollutants.

The emission of several air pollutants has decreased in Cyprus⁴². Significant emission reductions between 1990 and 2014 for sulphur oxides (-46%), ammonia (-12%) and for volatile organic compounds (-58%) ensure that air emissions for these pollutants are within the currently applicable national emission ceilings⁴³. Although nitrogen

repealing Directive 2001/81/EC.

- ⁴⁴ NOX is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NOX is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO2).
- ⁴⁵ Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many anthropogenic sources, including combustion.
- ⁴⁶ Low level ozone is produced by photochemical action on pollution and it is also a greenhouse gas.
- ⁴⁷ European Environment Agency, 2016. <u>Air Quality in Europe 2016</u>
 <u>Report</u>. (Table 10.2, please see details in this report as regards the underpinning methodology)
- ⁴⁸ Based on European Environment Agency, 2016. <u>Air Quality in Europe</u> <u>– 2016 Report</u>. (Figures 4.1, 5.1 and 6.1)
- ⁴⁹ It should be noted that the values of PM10 in Figure 9 are raw values. According to article 20 of the 2008/50/EC Directive, Member States shall transmit to the Commission for a given year, information on zones where exceedances of limit values for a given pollutant (for this case PM10) are attributable to natural sources. Cyprus used the methodology published by the Commission ("Guidelines for demonstration and subtraction of exceedances attributable to natural sources under the Directive 2008/50/EC on ambient air quality and cleaner air for Europe") and the PM10 concentrations values are much lower. The report showing the methodology used is uploaded CDR under the following link: at http://cdr.eionet.europa.eu/cy/eu/aqd/g/envvdeqew/.

⁴¹ European Commission, 2016. <u>Air Quality Standards</u>

⁴² See <u>EIONET Central Data Repository</u> and <u>Air pollutant emissions data</u> <u>viewer (NEC Directive)</u>

⁴³ The current national emission ceilings apply since 2010 (<u>Directive</u> <u>2001/81/EC</u>); revised ceilings for 2020 and 2030 have been set by

have been registered regarding only the target value for ozone $^{\rm 50}.\,$

It has been estimated that the health-related external costs from air pollution in Cyprus are above EUR 549 million/year (income adjusted, 2010), which include not only the intrinsic value of living a full, healthy life, but also direct costs to the economy. These direct economic costs relate to 213,000 workdays lost each year due to sickness related to air pollution, with associated costs for employers of EUR 17 million/year (income adjusted, 2010) and for healthcare of above EUR 1 – 3 million/year (income adjusted, 2010).⁵¹

Suggested action

 Maintain downward emissions trends of air pollutants and reduce adverse air pollution impacts on health, environment and economy.

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 issues⁵². 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.

Cyprus's implementation of the Environmental Noise Directive⁵³ is significantly delayed. Action plans for noise management in the current period have not been adopted for any of the agglomerations or roads within the scope of the Directive. The Commission contacted the Cypriot authorities with regard to the missing action plans, and continues to follow up on the situation.

Suggested action

• Complete action plans for noise management.

Water quality and management

The EU water policy and legislation require that the impact of pressures on transitional, coastal and fresh waters (including surface and ground waters) is significantly reduced to achieve, maintain or enhance good status of water bodies, as defined by the Water Framework Directive; that citizens throughout the Union benefit from high standards for safe drinking and bathing water; and that the nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.

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

The main overall objective of EU water policy and legislation is to ensure access to good quality water in sufficient quantity for all Europeans. The EU water *acquis*⁵⁴ 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.

In its first generation of RBMPs under the WFD Cyprus reported the status of 216 rivers, 18 lakes, 27 coastal and 20 groundwater bodies. Only 43% of natural surface water bodies achieve a good or high ecological status⁵⁵ (while the status of 23% is unknown) and 32% of heavily modified or artificial water bodies⁵⁶ achieve a good or high ecological potential. 74% of surface water bodies (24% unknown), 75% of heavily modified and artificial water bodies and 55% of groundwater bodies achieve good chemical status⁵⁷. Only 20% of groundwater bodies⁵⁸ are in good quantitative status.

⁵⁰ See <u>The EEA/Eionet Air Quality Portal</u> and the related Central Data Repository

⁵¹ These figures are based on the <u>Impact Assessment</u> for the European Commission Integrated Clean Air Package (2013)

⁵² WHO/JRC, 2011, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephalopoulos, S. (eds), <u>World Health Organization, Regional Office for Europe</u>, Copenhagen, Denmark

⁵³ 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.

⁵⁴ This includes the <u>Bathing Waters Directive (2006/7/EC)</u>; the <u>Urban</u> <u>Waste Water Treatment Directive (91/271/EEC)</u> concerning discharges of municipal and some industrial waste waters; the <u>Drinking Water Directive (98/83/EC)</u> concerning potable water quality; the <u>Water Framework Directive (2000/60/EC)</u> concerning water resources management; the <u>Nitrates Directive (91/676/EEC)</u> and the <u>Floods Directive (2007/60/EC)</u>

⁵⁵ Good ecological status is defined in the Water Framework Directive referring to the quality of the biological community, the hydrological characteristics and the chemical characteristics.

⁵⁶ 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.

⁵⁷ Good chemical status is defined in the Water Framework Directive referring to compliance with all the quality standards established for chemical substances at European level.

 $^{^{\}rm 58}$ For groundwater, a precautionary approach has been taken that

The major water management problem in Cyprus is overabstraction of groundwater. The main pressure on Cypriot surface waters comes from diffuse sources that affect 43% of surface water bodies. 17% of water bodies are affected by point sources and 20% by flow regulation or hydromorphological alterations.

Due to its semi-arid climate associated with limited water resources, Cyprus faces significant challenges related to water scarcity. The government is investing in desalination and recycling of water to tackle the issue. This has allowed Cyprus to minimize its dependency on rainfall of urban, suburban and tourist centres. The use of recycled water is promoted for irrigation and recharge of aquifers⁵⁹, which is good practice and can contribute under some conditions.

The Cypriot RBMP has a number of deficiencies that result in uncertainties concerning the status, pressures and effectiveness of its Programmes of Measures (PoMs). The measures planned are not expected to bring any improvement of the most pressing problems with groundwater quantitative and qualitative status, but should result in significant improvement of ecological status of surface water bodies (25% improvement) and only slight improvement (3%) in chemical status.

A series of Regulations establishing a water pricing policy which would cover a broad range of water services were to be adopted by the end of 2015 (Action Plan agreed between Cyprus and the Commission during the adoption of the Cypriot Operational Programme Competitiveness and Sustainable Development 2014-2020). To date, the pricing policy has not been fully implemented, with the adoption of new tariffs pending.

There are some issues with nitrate levels from agricultural sources, with around 25% of the reported monitoring sites being affected (nitrates concentrations above 25mg/l) by pollution in the reporting period 2008-2011 and an increase in the application rates of livestock manure.

Only part of the territory under government control (around 7.5%) is identified as a nitrate vulnerable zone and therefore subject to obligatory measures of pollution control.

As regards drinking water, Cyprus reaches very high compliance rates of 99-100% for microbiological and chemical parameters, and shows a 96.3% compliance rate with indicator parameters laid down in the Drinking Water Directive.⁶⁰ It is up to Member States to decide on

⁵⁹ EUROPE 2020, Cyprus National Reform Programme 2016

the health risks linked to non-compliance with indicator parameters.

As shown in Figure 10, in 2015 in Cyprus, out of 113 bathing waters 99.1% were of excellent quality, while it was not possible to assess the remaining 1 bathing waters. 61

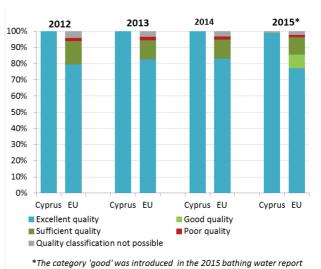


Figure 10: Bathing water quality 2012 – 2015⁶²

The final deadline for Cyprus to reach compliance with the Urban Waste Water Treatment Directive was 31 December 2012. The Commission has so far assessed compliance with the expired deadlines (2008, 2009, and 2011) that concerned only four agglomerations of more than 15,000 population equivalent (p.e.)⁶³. For those four agglomerations in 2011, 96% of the waste water load is connected to a collecting system and 3.8 % addressed by an individual or appropriate system. Thus, 99.8% of the load is deemed compliant in accordance with Article 3 of the Urban Waste Water Treatment Directive. However, only 59.8% is correctly treated as regards the secondary treatment requirement. This is mainly due to lack of performance information about the Mia Milia wastewater treatment plant that is in the north part of Cyprus. However, all the monitoring data from this plant have been provided for the year 2014 with the submission of the 9th Art. 15 reporting exercise. All of the waste water subject to more stringent treatment is correctly treated in accordance with Article 5 of the Urban Waste Water Treatment Directive⁶⁴. Cyprus

comprises a prohibition on direct discharges to groundwater and a requirement to monitor groundwater bodies.

⁶⁰ <u>Commission's Synthesis Report on the Quality of Drinking Water in</u> <u>the Union</u> examining Member States' reports for the 2011-2013 period, foreseen under Article 13(5) of Directive 98/83/EC; COM(2016)666 Note: 2011-2013 data. The list of microbiological,

chemical and indicator parameters that are assessed can be found in Annex I, part A, B and C of Directive 98/83/EC

⁶¹ European Environment Agency, 2016. <u>European bathing water quality</u> in 2015, p. 26

⁶² European Environment Agency, <u>State of bathing water</u>, 2016

⁶³ This is because under the past reporting exercises, Cyprus did not communicate 2012 data, but only data from 2011; compliance with the final deadline of 31.12.2012 could therefore not be assessed. It is expected that compliance with this final deadline will be assessed with data reported under the next (9th) reporting exercise, which should concern year 2014.

⁶⁴ Eighth Report on the Implementation Status and the Programmes for

belongs to a pilot project which aims to improve dissemination of data $^{\rm 65}$.

Figure 11: Urban waste water Cypriot situation 2011 – Final deadline 2012⁶⁶

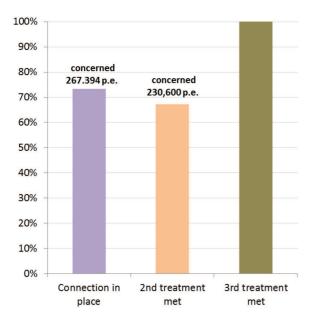


Figure 11 shows the total generated load at Member State level (in population equivalent and regardless of agglomerations) and the load that remains to be addressed by Cyprus.

The estimated investment needs (reported by Cyprus under Article 17 of the Urban Waste Water Treatment Directive) to reach full compliance with the Directive are of EUR 826 million⁶⁷.

Suggested action⁶⁸

- Improve water policy in line with the intervention logic of the Water Framework Directive, i.e. do a more detailed assessment of pressures to improve monitoring to know the status of water bodies and design PoMs that address all the main pressures identified, in particular from agriculture.
- Promote water efficiency and sustainable water retention including natural water retention measures in the PoM and ensure adequate funding.

Implementation (as required by Article 17) of Council Directive 91/271/EEC concerning urban waste water treatment (COM (2016)105 final) and Commission Staff Working Document accompanying the report (SWD(2016)45 final).

⁶⁷ Eighth <u>Report</u> on the Implementation Status and the Programmes for Implementation (as required by Article 17) of Council Directive 91/271/EEC concerning urban waste water treatment (COM (2016)105 final) and Commission Staff Working Document accompanying the report (SWD(2016)45 final

⁶⁸ For the full set of recommendations relating to the Water Framework Directive please see <u>here.</u>

- Establish a water pricing policy covering a broad range of water services and based on metering that would include tariffs reflecting environmental and resource costs and provide incentives for more efficient use of water.
- Enforce the laws concerning the groundwater use to control self-abstraction. Water permits should be consistent with environmental objectives. Water from desalination should not be destined for agricultural use.
- Monitor the development of agricultural pressure and the consequent water quality changes, with a view to reviewing and if necessary revising the nitrate vulnerable zones and the implementation and control of the Action Programme measures.
- Ensure that all the waste water collected is treated in accordance with the secondary treatment requirements.

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.⁶⁹ 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 housing⁷⁰.

The European Commission will launch a new EU benchmark system in 2017^{71} .

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

⁶⁵See <u>http://uwwtd.oieau.fr/cyprus/</u>

⁶⁶ European Commission, 2016<u>. Urban waste water, 8th implementation</u> reports

⁶⁹ European Environment Agency, <u>Urban environment</u>

⁷⁰<u>http://urbanagendaforthe.eu/</u>

⁷¹ The Commission is developing an <u>Urban Benchmarking and</u> <u>Monitoring ('UBaM') tool</u> to be launched in 2017. Best practices emerge and these will be better disseminated via the app featuring the UBaM tool, and increasingly via e.g. EUROCITIES, ICLEI, CEMR, Committee of the Regions, Covenant of Mayors and others.

between 20,000 and 100,000 inhabitants.



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, Cyprus has signed, but not yet ratified, the Kiev Protocol on Pollutant Release and Transfer Registers, the Protocol on Strategic Environmental Assessment to the Espoo Convention and the Nagoya Protocol⁷². It has neither signed nor ratified the Protocol on Integrated Coastal Zone Management and the Helsinki Convention on Watercourses and Lakes.

⁷²Protocol 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.

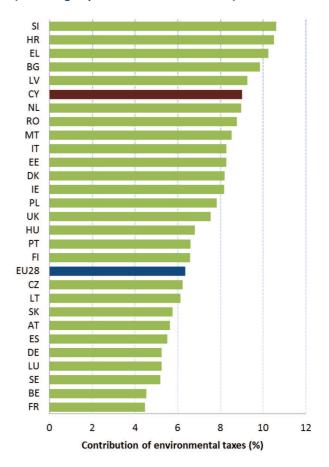
Taxing pollution and resource use can generate increased revenue and bring important social and environmental benefits.

Revenues from environment-related taxes amounted to 3.08% of GDP in 2014 in Cyprus (up from 2.73 in 2013), above the EU average of 2.46%. Energy taxes accounted for the greatest proportion of environmental taxes in 2013, amounting to 2.37% of Cyprus' GDP. Revenues from transport (excluding fuel) taxes amounted to 0.71% of GDP. According to Eurostat, Cyprus does not generate any revenue from taxation placed on pollution and resources⁷³. In the same year environmental tax revenues accounted for 9.01% of total revenues from taxes and social-security contributions (EU 28 average: 6.35%) as shown in Figure 12.

A 2016 study suggests that there is considerable potential for shifting taxes from labour to environmental taxes⁷⁴. Under a good practice scenario⁷⁵ the amount could be as high as EUR 0.17 billion in 2018, rising to EUR 0.23 billion in 2030 (both in real 2015 terms). This is equivalent to an additional 0.95% and 1.09% of GDP in 2018 and 2030, respectively. The largest potential contribution to revenue would come from the suggested passenger aviation tax. In the absence of resource and pollution taxes, Cyprus could reconsider implementation of resource taxes, such as water abstraction tax,

aggregates tax and landfill tax.

Figure 12: Environmental tax revenues as a share of total revenues from taxes and social contributions (excluding imputed social contributions) in 2014⁷⁶



Green Public Procurement

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

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

The purchasing power of public procurement equals to

⁷³ Eurostat, Environmental tax revenues, assessed June 2016

⁷⁴ 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.

⁷⁵ The good practice scenario means benchmarking to a successful taxation practice in another Member State.

⁷⁶ Eurostat, Environmental tax revenues, accessed October 2016

approximately 14% of GDP⁷⁷. 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 criteria⁷⁸.

The second National Action Plan (NAP) for GPP was adopted by the Council of Ministers on 31 January 2012. EU GPP criteria are recommended for the following product groups: office equipment, paper, electricity, cleaning products and services, sanitary ware, construction (building and road), food products and services, furniture, textiles, transport, gardening products and services.

All public procurers have to adopt at least the core criteria from the GPP NAP (includes the EU GOO Toolkit criteria and national criteria for some categories for which there are no EU criteria), with a target of at least $50\%^{79}$.

In a 2010 study, the share of Cypriot authorities that included GPP requirements in between 50% and 100% of their contracts was estimated between 10 and $20\%^{80}$.

According to the latest survey Cypriot authorities used green criteria in more than 50% of the cases in selected categories (e.g. 70%-100% for IT equipment, recycled kitchen paper, stationery, etc.), which is slightly more than the EU average⁸¹, although data are not available for all categories.

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 $(\text{ESIF})^{82}$ is essential to achieve the

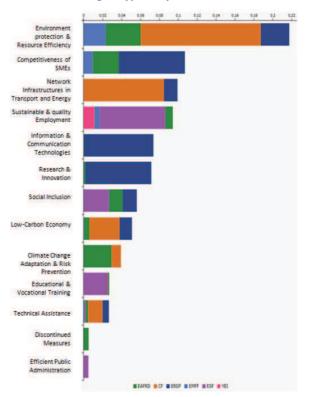
environmental goals and integrate these into other policy areas. Other instruments such as the Horizon 2020, the LIFE programme and European Fund for Strategic Investment⁸³ (EFSI) may also support implementation and spread off best practice.

With regard to EFSI there are a number of projects under consultation with EIB concerning Renewable Energy.

For the 2014-2020 programming period Cyprus has adopted four Operational Programmes (OPs): one for the European Agricultural Fund for Rural Development (EAFRD), one for the European Maritime and Fisheries Fund (EMFF), one for the European Social Fund (ESF) and one for the European Regional Development Fund (ERDF) and the Cohesion Fund (CF).

The total EU allocation of ESIF for Cyprus will be EUR 874 million (see figure 13), which is an increase compared to the 2007-2013 programming period, when the EU allocated funds amounted to EUR 612 million.

Figure 13: European Structural and Investment Funds 2014-2020: Budget Cyprus by theme, EUR billion⁸⁴



The biggest share – EUR 292.1 million (33.4%) of funding is coming from the European Fund for Regional Development (ERDF).

EUR 269.5 million (30.8%) - from the Cohesion Fund (CF).

EUR 132.2 million (15.1%) – from the European Agricultural Fund for Rural Development (EAFRD).

⁷⁷ European Commission, 2015. <u>Public Procurement</u>

⁷⁸ 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.

⁷⁹ European Commission, 2015. <u>Documentation on National GPP Action</u> <u>Plans</u>

⁸⁰ Adelphi et al., 2011. <u>Strategic Use of Public Procurement in Europe</u>

⁸¹ CEPS, 2012. Monitoring the Uptake of GPP in the EU

⁸² 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.

⁸³ EIB: European Fund for Strategic Investments

⁸⁴ European Commission, <u>European Structural and Investment Funds</u> <u>Data By Country</u>

EUR 128.9 million (14.8%) - from the European Social Fund (ESF).

EUR 39.7 million (4.5%) from the European Maritime and Fisheries Fund (EMFF).

In total, EUR 217.3 million is dedicated to Thematic Objective (TO) 6 Environment Protection and Resource efficiency, EUR 127 million through the CF, EUR 36.9 million through the EAFRD programme, EUR 30 m through the ERDF programme and EUR 23.4 million through the EMFF. In addition, EUR 51 million is foreseen for TO4 Low Carbon Economy (ERDF, CF, EMFF and EAFRD) and EUR 39.4 million for TO5 Climate Change Adoption and Risk Prevention (EAFRD and CF). 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.

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

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 nongovernmental stakeholders, and having adequate levels of knowledge and skills⁸⁵. Successful implementation depends, to a large extent, on central, regional and local government fulfilling key legislative and administrative tasks, notably adoption of sound implementing legislation, co-ordinated action to meet environmental objectives and correct decision-making on matters such as industrial permits. Beyond fulfilment of these tasks, government must intervene to ensure day-to-day compliance by economic operators, utilities and individuals ("compliance assurance"). Civil society also has a role to play, including through legal action. To underpin the roles of all actors, it is crucial to collect and share knowledge and evidence on the state of the environment and on environmental pressures, drivers and impacts.

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

Effective governance within central, regional and local government

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

Capacity to implement rules

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

Alignment of legislation in Cyprus was closely followed throughout pre-accession period. No significant gaps have arisen and the process of putting in place the EU *acquis* led to the strengthening of environmental policies and legislation. So far, the Cypriot authorities comply with the deadlines imposed by the EU environmental legislation and react quickly and efficiently, whenever the Commission initiates an infringement procedure. A notable exception is in the nature sector, where some delays are observed (i.e. designation of Special Protected Areas and proposal of Sites of Community Interest).



The number of infringement cases against Cyprus is moderate (8 infringement cases, of which 7 at 258 stage and 1 at 260 stage). In general, there are no significant problems regarding the quality of the transposition of the EC Directives. Currently no case is open. Most cases relate either to bad application of the EU environmental legislation or late transposition.

According to a Report of the World Bank⁸⁶, strategic planning (including in cases of cross-cutting issues) and environmental policy integration are, generally, weak and could be improved.

The transposition of the revised EIA Directive⁸⁷ will be an opportunity to streamline the regulatory framework on environmental assessments. The Commission encourages

⁸⁵ The Commission has work ongoing to improve the country-specific knowledge about quality and functioning of the administrative systems of Member States.

⁸⁶Analysis of the Function and Structure of the Ministry of Agriculture, Natural Resources and Environment (MANRE) of the Republic of Cyprus, Document of the World Bank, May 2014.

⁸⁷ The transposition of Directive 2014/52/EU is due in May 2017

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 2016⁸⁸ 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.

Coordination and integration

Cyprus adopted a National Sustainable Development Strategy in 2007, which was revised in 2010. The current Strategy is mainly a compilation of the actions taken separately by various Ministries, rather than being a strategic document formulated under a structured, participatory process, guiding and integrating policies. The governance aspects are not dealt with. There is no formal inter-ministerial coordination mechanism or entity to ensure that the (sometimes conflicting) objectives are properly balanced between different Ministries. Overall, the system is currently characterized by a high degree of fragmentation.

Environmental management is characterized by a high level of concentration at the civil service and the central government level. This, in conjunction with the small size of the country and the simple organizational structure in two levels of government (central and local) presents opportunities to effectively address the gaps that exist. The role of local authorities is rather limited, with most decisions relating to the environment taken by government agencies. At this stage, the local environmental capacity (empowerment, personnel, know-how, financial resources) to undertake and exercise broad environmental responsibilities is not sufficient⁸⁹.

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 dutyholders by monitoring and promoting compliance and by taking credible follow-up action (i.e. enforcement) when breaches occur or liabilities arise. Compliance monitoring

can be done both on the initiative of authorities themselves and in response to citizen complaints. It can involve using various kinds of checks, including inspections for permitted activities, surveillance for possible illegal activities, investigations for crimes and audits for systemic weaknesses. Similarly, there is a range of means to promote compliance, including awarenessraising 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 law⁹⁰ 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 14.

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*⁹¹, *EUFJE*⁹², *ENPE*⁹³ and *EnviCrimeNet*⁹⁴, is a valuable tool for sharing experience and good practices.

Figure 14: Environmental compliance assurance



Currently, there exist a number of sectoral obligations on inspections and the EU directive on environmental liability (ELD)⁹⁵ provides a means of ensuring that the "polluter-pays principle" is applied when there are accidents and incidents that harm the environment.

⁸⁸ European Commission, 2016. Commission notice — <u>Commission</u> <u>guidance document on streamlining environmental assessments</u> <u>conducted under Article 2(3) of the Environmental Impact</u> <u>Assessment Directive</u> (Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU).

⁸⁹Analysis of the Function and Structure of the Ministry of Agriculture, Natural Resources and Environment (MANRE) of the Republic of Cyprus, Document of the World Bank, May 2014.

⁹⁰ European Union, Environmental Crime Directive 2008/99/EC

⁹¹ European Union Network for the Implementation and Enforcement of Environmental Law

⁹² European Union Forum of judges for the environment

⁹⁴ The European Network of Prosecutors for the Environment

⁹⁴ EnviCrimeNet

⁹⁵ 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 evaluation.⁹⁶

Over the last decade, Cyprus has made efforts to improve risk-based compliance assurance, in particular in relation to industrial inspections. The IMPEL IRAM risk assessment tool is used for planning and targeting inspections of industrial installations⁹⁷.

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

- data-collection arrangements to track the use and effectiveness of different compliance assurance interventions;
- the extent to which risk-based methods are used to direct compliance assurance at the strategic level and in relation to critical activities outside of industrial installations, especially specific problemareas highlighted elsewhere in this Country Report, i.e. non-compliant waste disposal, the threats to protected habitat types and species, including illegal trapping of wild birds, over-abstraction of groundwater⁹⁸ and the pressures on water quality from diffuse and point sources of pollution;
- arrangements for structured coordination and cooperation between different relevant competent authorities;
- how the Cypriot authorities ensure a targeted and proportionate response to different types of noncompliant behaviour, in particular in relation to serious breaches detected, given indications that there is a low probability of being criminally

prosecuted and sentenced for environmental offences.

Cyprus participates in the activities of IMPEL, but is not very active in relation to the work of the other European networks of environmental professionals.

For the period 2007-2013, Cyprus reported one incident of environmental damage falling within the scope of the Environmental Liability Directive (ELD). Due to limited resources and expertise, Cyprus finds it difficult to deal with the technical requirements of the Directive and is in need of further guidance and training. It did not establish mandatory financial security (to pay for remediation where an operator cannot) and insurance cover appears to be insufficiently available for liabilities under the Directive.

Suggested action

- Encourage greater participation of competent authorities in the activities of ENPE, EUFJE and EnviCrimeNet.
- Step up efforts in the implementation of the Environmental Liability Directive (ELD) with proactive initiatives, in particular by setting up a national register of ELD incidents and drafting national guidance. Moreover, take further steps to ensure an effective system of financial security for environmental liabilities (so that operators not only have insurance cover available to them but actually take it up).

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 Decisionmaking 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

⁹⁶ 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.

⁹⁷ Study on 'Assessment and summary of the Member States' implementation reports for the IED, IPPCD, SED and WID. Industrial Emissions Directive', 2016, Amec Foster Wheeler Environment & Infrastructure UK Ltd in collaboration with Milieu Ltd, p. 163f.

⁹⁸ Some good practices have been identified in Cyprus in relation to water inspection, such as its enforcement programme on agricultural abstractions using satellite photography and on-site inspections, see Comparative study of pressures and measures in the major River Basin Management Plans, section Governance, 2012, p. 32, 133: http://ec.europa.eu/environment/archives/water/implrep2007/pdf/ Governance-Pressures%20and%20measures.pdf

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.

The rules on access to justice in environmental matters in Cyprus are considered as clear. However, the cost risks related to bringing cases to court in Cyprus prevents not only individuals but also NGOs from taking cases to the court. Another difficulty faced by potential litigants is the lack of timely procedures, which additionally increases the costs. NGOs have in principle legal standing, but case law of the Supreme Court introduced restrictions which might contravene the objective of granting a wide access to justice in the context of the Aarhus Convention (e.g. the requirement of a geographical proximity)⁹⁹.

Suggested action

• Take the necessary measures to ensure that the costs of legal challenges involving EU environmental law are not prohibitively expensive, and in line with the requirements of EU law as well as the Aarhus Convention.

Access to information, knowledge and evidence

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

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

The Aarhus Convention¹⁰⁰, the Access to Environmental Information Directive¹⁰¹ and the INSPIRE Directive¹⁰² 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 Plan¹⁰³. 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.

Cyprus's performance on the implementation of the INSPIRE Directive as enabling framework to actively disseminate environmental information to the public is lagging behind. Cyprus has indicated in the 3-yearly INSPIRE implementation report¹⁰⁴ 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 partially available and implemented. During the last year, emphasis has been placed on opening up public data, through the recent adoption of Directive 2003/98/EC on the re-use of public sector information. For this purpose, the Cyprus government has launched the open data website www.data.gov.cy, where most data published under the INSPIRE Directive are publicly available and free of charge. Through this platform public authorities publish information and data they possess or have generated in all fields, including statistics, maps, geoscientific data and meteorological information. Sections on Environment, Agriculture/ Livestock/ Fisheries as well as on Geospatial data have been created and efforts are now concentrated on data quality control and on increasing data availability. Cyprus only mentions data-sharing licenses in use by the Department of Lands and Surveys.

Assessments of monitoring reports¹⁰⁵ issued by Cyprus and the spatial information that Cyprus has published on the INSPIRE geoportal¹⁰⁶ 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.

Suggested action

• Critically review the effectiveness of data policies and amend them, taking 'best practices' into consideration.

⁹⁹ See study on access to justice in environmental matters 2012/2013

¹⁰⁰ UNECE, 1998. <u>Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters</u>

¹⁰¹European Union, <u>Directive 2003/4/EC on public access to</u> <u>environmental information</u>

¹⁰²European Union, <u>INSPIRE Directive 2007/2/EC</u>

²⁰³ European Union, EU eGovernment Action Plan 2016-2020 -Accelerating the digital transformation of government <u>COM(2016)</u> <u>179</u> final

¹⁰⁴ European Commission, <u>INSPIRE reports</u>

¹⁰⁵ Inspire indicator trends

¹⁰⁶ Inspire Resources Summary Report

• 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.