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Environmental Implementation Review 2022
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

Environmental Implementation Review: *Turning the tide through environmental compliance*

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This report has been written by the staff of the Directorate-General for Environment, European Commission. Comments are welcome, please send them to: ENV-EIR@ec.europa.eu

More information on the European Union is available on the internet (http://europa.eu).

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Executive summary

In previous Environmental Implementation Reviews (EIRs), the main challenges identified for Cyprus for the implementation of EU environmental policy and law were:

- to address **waste management issues**, in particular to close illegal landfills and put in place the necessary infrastructure;
- to improve **nature protection** by ensuring that necessary assessments are carried out correctly, that mitigation measures are put in place and properly applied and that illegal bird trapping is eliminated; and
- to improve **water management** in order to tackle water scarcity and over-abstraction effectively.

There has been some progress on **waste management**, through the implementation of the 2015-2021 municipal waste management strategy. The updated national waste management plan, in line with the requirements of the revised Waste Framework Directive, is still pending. The illegal landfills in Limassol and Nicosia have closed and their rehabilitation is ongoing. Waste generation is significantly above the EU average, while the recycling rate has not improved since the last report. Cyprus makes very limited use of economic instruments in this area. Cyprus needs to make a significant effort to set up an adequate network of facilities that would effectively manage all of its waste in line with the waste hierarchy if it is to reach the recycling targets for 2020 and beyond. According to the Commission's 2018 'early warning report', Cyprus is at risk of not meeting the 2020 municipal waste recycling target of 50%.

On **nature protection**, there are still insufficiencies in designation. Therefore, Cyprus has still to complete its Natura 2000 Network, in particular the marine part. An infringement case is open on the matter. There seems to be a lack of progress in maintaining or restoring favourable conservation status of species and habitats, protected under the nature directives. Furthermore, some designations are still missing and the quality of the conservation objectives and measures is insufficient. Moreover, Cyprus has drawn up management plans for most sites of Community importance,the majority are outdated. The effective protection of Natura 2000 areas - especially coastal zone - from incompatible activities or developments that fragment or degrade them, remains a concern. Management plans for these areas must be completed and properly implemented and all necessary environmental assessments carried out correctly before potentially damaging plans or projects can be approved. The necessary mitigation measures should be properly applied. Some progress has been made on the illegal trapping of birds thanks to increased enforcement and stricter fines for mist-netting in legislation. However, the trapping numbers are still unacceptably high.

On **water management**, Cyprus has made some progress. The Commission's assessment of the implementation of the programmes of measures (PoMs) for Cyprus showed that the majority of measures are in progress. Water abstraction remains the main pressure on water in Cyprus, as it appears that the measures in place for managing and controlling it are not strict enough. Water management measures under the Cypriot recovery and resilience plan (RRP) are promising. Urban waste water treatment remains an issue in Cyprus, with slow progress and limited funding sources.

EU financing continues to provide substantial support for the environmental implementation gap, and Cyprus is due to receive over EUR 1.2 billion in grants and loans under its RRP (2021-2026) and EUR 0.9 billion from the cohesion policy (2021-2027). Cyprus' environmental financing for investments is estimated to have been 0.81% of GDP in 2014-2020 (slightly above the EU average of 0.7%), mostly relying on national financing. The overall environmental investment needs in 2021-2027 are expected to be over 1.1% of Cyprus' GDP, suggesting an environmental financing gap of at least 0.29% of the GDP to be addressed by mobilising additional financial resources to back the country's environmental priorities.

Part I: Thematic areas

1. Circular economy and waste management

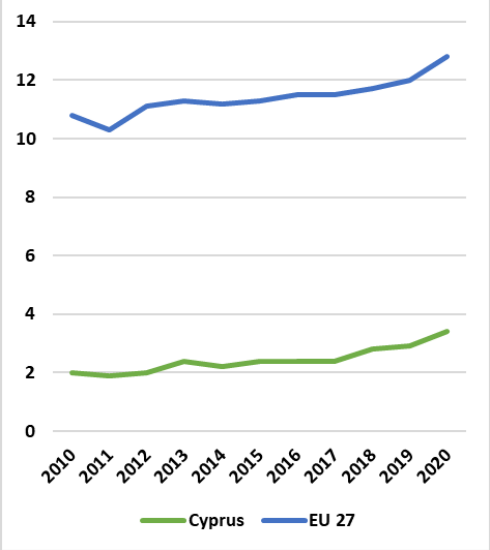
Measures towards a circular economy

The new Circular Economy Action Plan adopted in March 2020 is one of the main building blocks of the European Green Deal. The EU's transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. The Action Plan announces initiatives along the entire life cycle of products, aiming to reduce the EU's consumption footprint and to double the EU's circular material use rate by 2030. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

The circular material use rate is a good indicator of an economy's circularity, as it includes all the materials that are fed back into our economy. Large differences in the circularity rate exist between countries. To help achieve the goal in the EU circular economy action plan of doubling the EU's circular material use rate by 2030, ambitious measures targeting the whole product life cycle are needed at Member-State level. Such measures range from sustainable product design that makes it possible to increase the durability, reparability, upgradability and recyclability of products, to other measures, like: (i) 'remanufacturing'; (ii) increasing circularity in production processes; (iii) recycling; (iv) boosting eco-innovation; and (v) increasing the uptake of green public procurement.

Circular (secondary) use of material in Cyprus was 2.3% in 2016 and 3.4% in 2020, compared to the EU average of 12.8%. Despite some progress, Cyprus has not been able to narrow the wide gap with the EU average.

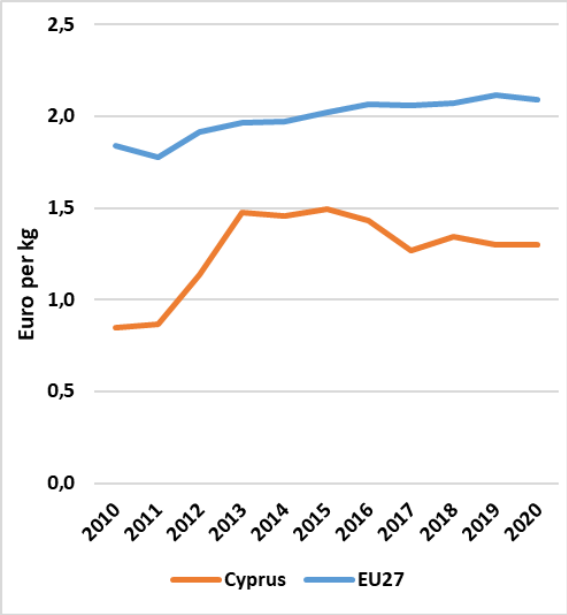
Figure 1 – Circular material use rate (%), 2010-2020[1]



Resource productivity expresses how efficiently the economy uses material resources to produce wealth. Improving resource productivity can help to minimise negative impacts on the environment and reduce dependency on volatile raw material markets. As shown in Figure 2, with EUR 1.3 generated per kg of material consumed in 2020, resource productivity in Cyprus is well below the EU average of EUR 2.08 per kg.

[1] Eurostat, Circular Economy Monitoring Framework.

Figure 2: Resource productivity 2010-2020[2]



Circular economy strategies

The Commission encourages Member States to adopt and implement national/regional circular economy strategies covering the whole life cycle of products. This is because such strategies are one of the most effective ways to progress towards a more circular economy. Since the launch of the online European Circular Economy Platform in 2017[3], national, regional or local authorities have used the platform to share their strategies and roadmaps.

In 2021, the Ministers of Energy, Commerce and Industry and Agriculture, Rural Development and Environment and the Deputy Minister of Research, Innovation and Digital Policy presented 'Cyprus' 2021-2027 action plan for the transition to a circular economy' with a budget of EUR 90 million, funded primarily by the Recovery and Resilience Plan, approved by the Council of Ministers. The plan is built on four pillars: (i) cultural change for a circular economy (including a grant scheme for SMEs to move into a circular economy model); (ii) providing incentives for investments in the circular economy; (iii) development for circular economy infrastructures; and (iv) municipal waste management.

Cyprus does not have specific sectoral strategies on plastics, textiles or construction. However, its 2021-2027 action plan for the transition to a circular economy includes initiatives that may potentially target these sectors. Measures on plastic, textile and construction waste were also included in the national waste prevention programme for 2015-2021. These measures mainly focused on information and awareness, voluntary agreements, separate collection and the introduction of 'pay-as-you-throw' (PAYT) schemes,reuse and resale centres/points and other local initiatives. The revised waste prevention programme for 2021-2027, which is expected to be adopted in the first half of 2022 sets out more ambitious measures for several priority sectors, including plastics, textiles and construction. The plan also includes cross-cutting measures aimed at waste prevention, reuse, repair and remanufacture, as well as improving product design.

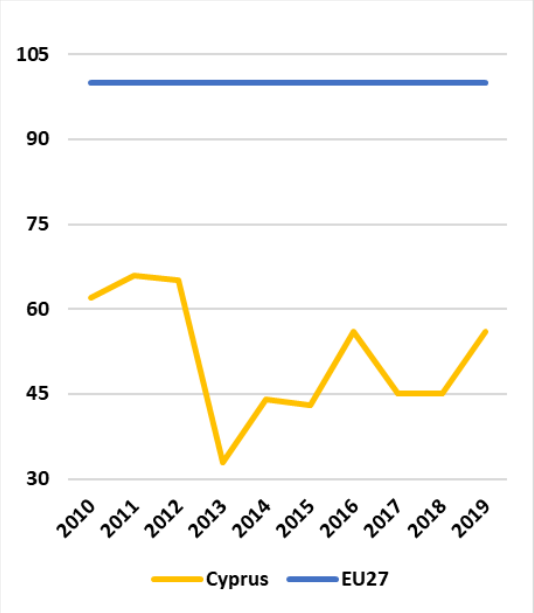
Through its RRP, Cyprus aims to enhance the circular economy model in the industry by implementing its afore-mentioned Action Plan. It also includes the establishment of a coordinating body between central and local governments. This body will: (i) provide technical and financial support for waste management to local authorities; (ii) participate in research programmes; (iii) support pilot programmes; and (iv)organise education and information campaigns. The planned upgrading of the waste collection infrastructure is expected to lead to an improvement in the low recycling rate and the prevention of illegal waste dumping. Other reforms may also have a positive impact, such as the setting up of a National Promotional Agency to improve access to finance for SMEs with a focus on green and circular economy.

Eco-innovation

A successful transition to a circular economy requires social and technological innovation. This is because as its the full potential of the circular economy can only be reached when implemented across all value chains. ETherefore, eco-Innovation is an important enabling factor for the circular economy. New approached to pProduct design approaches and new business models can help to produce systemic circularity innovations, creating new business opportunities.In 2021, Cyprus ranked 23rd on the 2021 Eco-innovation Index, with a total score of 79, indicating that the country needs to catch up with its eco-innovation activities. In all five components (eco-innovation activities, eco-innovation outputs, socio-economic, eco-innovation input and resource efficiency outcomes) of the 2021 Index, Cyprus performs below the EU average.

[2] Eurostat, Resource productivity.
[3] Circular Economy Stakeholder Platform

Figure 3: Eco-innovation performance, 2010-2019[4]



Green public procurement

Public procurement accounts for a large proportion of European consumption, with public authorities' purchasing power representing Around 14% of EU GDP. Public procurement can help drive the demand for sustainable products that meet reparability and recyclability standards. To date reporting to monitor the uptake of green public procurement (GPP) is voluntary.

A national strategy for GPP has been in force since March 2007, and a second strategy was adopted in 2012. The implementation of the national action plan for green public procurement is mandatory for all public sector contracting authorities, public law organisations and local authorities.

All public procurers must apply at least the core criteria from the GPP toolkit as well as the criteria set by the national experts (50%). These criteria cover office equipment, paper, electricity, cleaning products and services, sanitary ware, construction (building and road), food products and services, furniture, textiles, transport, as well as gardening products and services. Every few years, the Department of the Environment publishes a review of achievements, drawn up based on questionnaires and direct contact with the public authorities concerned. Since 2014, the Department has organised an award for green procurements, the 'CY GPP Awards'. All contracting authorities that purchase green products through their tenders or other procedures are eligible to participate in this award.

EU ecolabel and the eco management and audit scheme (EMAS)

The number of EU ecolabel products and EMAS-licensed[5] organisations in a given country provides some indication of the extent to which the private sector and national stakeholders are actively engaged in the transition to a circular economy. It also shows how committed public authorities are to supporting instruments designed to promote the circular economy.

As of September 2021, Cyprus had 84 products out of 83 590 and 3 licenses out of 2 057 registered in the EU ecolabel scheme , showing a low take-up of products and licences. Moreover, as of October 2021, 73 organisations, from Cyprus are currently registered in EMAS[6]. Compared to 2019, Cyprus has 3 registered products and 4 licenses less under the EU Ecolabel scheme and 11 organisations under EMAS.

As Cyprus has adopted a circular economy action plan, this priority action from the 2019 EIR is fulfilled. However, given that the circular material use rate is far below the EU average, a new priority action on this is proposed.

2022 priority action

- Adopt measures to increase the circular material use rate.

Waste management

Turning waste into a resource is supported by:
(i) fully implementing EU waste legislation, which includes the waste hierarchy, the need to ensure separate collection of waste, the landfill diversion targets, etc.;
(ii) reducing waste generation and waste generation per capita in absolute terms;
(iii) limiting energy recovery to non-recyclable materials and phasing out landfilling of recyclable or recoverable waste.

This section focuses on the management of municipal waste[7] for which EU law sets mandatory recycling targets.

[4] European Commission - Directorate-General for Environment (DG ENV), Eco-innovation Observatory, Eco-innovation scoreboard and the eco-innovation index.

[5] EMAS is the European Commission's Eco-Management and Audit Scheme, a programme to encourage organisations to behave in a more environmentally sustainable way.

[6] As of May 2018. European Commission, Eco-Management and Audit Scheme.

[7] Municipal waste consists of: (a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastics, bio-waste, wood, textiles, packaging, waste electrical and

Preventing products and materials from becoming waste for as long as possible is the most efficient way to improve resource efficiency and to reduce the environmental impact of waste. Waste prevention and re-use are the most preferred options, and are therefore at the top of the waste hierarchy. The amount of municipal waste generated is a good indicator for the effectiveness of waste prevention measures.

After a downward trend until 2014, municipal waste generation in Cyprus has started to increase in recent years. It fell again in 2020 to 609 kg/year/inhabitant , but this is still significantly higher than the EU average (505 kg/year/inhabitant), as Figure 4 shows. This indicates that Cyprus's economic growth is not yet decoupled from its generation of waste.

Figure 4: Municipal waste by treatment in Cyprus, 2010-2020[8]

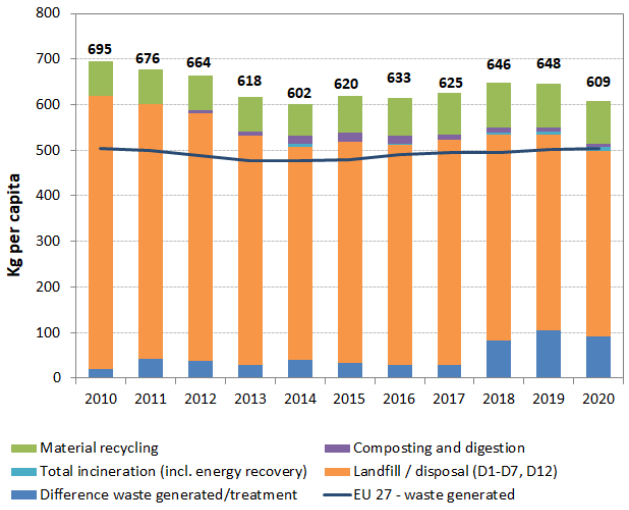


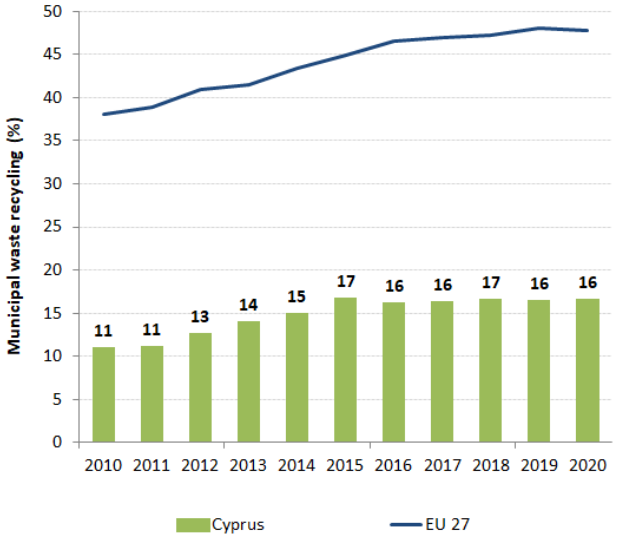
Figure 4 also shows municipal waste by treatment, in terms of kilos per capita. The situation varies by region, but managing waste efficiently remains an important challenge for Cyprus and very little progress has been made since the 2019 EIR. Cyprus disposes most of its waste in landfills (68%), with only 15% being recycled (EU average 48%), a decrease compared to the previous report. Moreover, a worrying trend that has emerged in the last couple of years is that a significant amount (17% in 2019) of the total generated waste is unaccounted for in terms of treatment.

Cyprus has made slow but steady progress over the past decade and up until 2018 on stepping up its recycling rate and diverting municipal waste from landfilling. The rate dropped from 16.5% in 2018 to 15% in 2019 (of which 13.5% was recycled, while only 1.5% was composted). This is well below the EU average of 48% (EU 2019).

Moreover, based on the information available to the Commission, it appears that a significant number of irregular and substandard landfills operate in Cyprus and present serious risks for human health and the environment. Studies and investigations launched by the European Commission found that 21% of the total quantity of waste produced in Cyprus is landfilled without any pre-treatment and particularly in the district of Paphos. Furthermore, Cyprus has not established an integrated and adequate network of waste management installations for mixed municipal waste[9]. For this reason, in December 2021, the Commission initiated an infringement procedure against Cyprus for failing to comply with the Landfill Directive[10] and the Waste Framework Directive[11-12].

Figure 5 shows that Cyprus needs to step up investment in recycling to meet the EU 2020 and 2025 recycling targets.

Figure 5: Recycling rate of municipal waste, 2010-2020[13]



The Commission's early warning report[14] cited Cyprus among the countries at risk of missing the EU 2020 target of recycling 50 % of municipal waste. The report listed

electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture; (b) mixed waste and separately collected waste from other sources, where such waste is similar in nature and composition to waste from households. (Directive 2008/98/EC, Art. 3 2b).

[8] Eurostat, Municipal waste by waste operation, April 2022.

[9] INF/21/6201.

[10] Directive 1999/31/EC.

[11] Directive 2008/98/EC.

[12] INF/21/6201.

[13] Eurostat, Recycling rate of municipal rate, April 2022.

[14] European Commission, Report on the implementation of waste legislation, including the early warning report for Member States at risk of missing the 2020 preparation for re-use/recycling target on municipal waste, SWD(2018)422 accompanying COM(2018)656.

key priority measures that Cyprus should take to close the implementation gap. The Commission is currently finalising its analysis of progress made on the recommendations from the 2018 early warning reports and progress towards the 2025 waste recycling targets. This report will be presented at the end of 2022 and will make recommendations as appropriate.

Implementation of the 2018 waste legislative package

Cyprus notified the Commission that the 2018 waste package has been fully implemented in national law[15]. A conformity assessment is now ongoing.

Waste management plans and waste prevention programmes are instrumental for a sound implementation of the EU waste legislation. They set out key provisions and investments to ensure compliance with existing and new legal requirements (e.g. waste prevention, separate collection for a number of specific waste streams, recycling and landfill targets). Revised plans and programmes were due on 5 July 2020.

Cyprus has not notified its updated waste management plan to the Commission. The Commission will assess whether the current plan meets the requirements of Article 28 of the revised Framework Directive on Waste.

Cyprus has not yet ratified the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.

Given the limited progress since the 2019 EIR, and in light of the upcoming 2022 early warning report, the 2019 priority actions are repeated, and a new one on the adoption of the waste management plans is added.

2022 priority actions

- Introduce and gradually increase landfill taxes to phase out landfilling of recyclable and recoverable waste.
- Finalise the work on rehabilitating the last two non-compliant landfills.
- Improve and extend separate collection of waste, including for bio-waste. Establish minimum service standards for separate collection (e.g. frequency of collections, types of containers, etc.) in municipalities to ensure high capture rates of recyclable waste.
- Use economic instruments such as 'pay-as-you-throw' schemes, and set mandatory recycling targets for municipalities with penalties for non-compliance (e.g. fines).
- Limit incoming shipments of waste destined for incinerators to avoid landfilling of locally generated residual waste
- Develop and run support programmes for municipalities to help them implement separate collection policies and improve recycling rates.
- Improve the functioning of extended producer responsibility (EPR) systems, in line with the general minimum requirements on EPR.
- Ratify the international Convention on ship recycling.
- Adopt and implement the national waste management plan in line with the revised Waste Framework Directive.

[15] Directive (EU) 2018/851, Directive (EU) 2018/852, Directive (EU) 2018/850 and Directive (EU) 2018/849 amend the previous waste legislation and set more ambitious recycling targets for the period up to 2035.

2. Biodiversity and natural capital

The 2030 EU biodiversity strategy adopted in May 2020 aims to put the EU's biodiversity on a path to recovery and sets out new targets and governance mechanisms to achieve healthy and resilient ecosystems.
In particular, the strategy sets out ambitious targets to:
(i) protect a minimum of 30% of the EU's land area and 30% of its sea area and integrate ecological corridors, as part of a true trans-European nature network;
(ii) Strictly protect at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests;
(iii) effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.
The strategy also sets out an EU nature restoration plan – a series of concrete commitments and actions to restore degraded ecosystems across the EU by 2030, and manage them sustainably, addressing the key drivers of biodiversity loss.

The Habitats and Birds Directives are key legislative tools to deliver on the targets in the EU's biodiversity strategy for 2030, and are the cornerstone of European legislation aimed at conserving the EU's wildlife[16].

Cyprus' 'biodiversity strategy and action plan in Cyprus'[17] were approved by the government on 3 June 2020[18].

The new strategy offsets out 13 strategic objectives for biodiversity for the next decade (2020-2030).The action plan sets out 86 measures with corresponding indicators to measure success. The indicative budget for these measures amounts to EUR 27 545 000 for the next decade.

Nature protection and restoration

Natura 2000[19], the largest coordinated network of protected areas in the world, is the key instrument to achieve the objectives in the Birds and Habitats Directives. These objectives are: (i) to ensure the long-term protection, conservation and survival of Europe's most valuable and threatened species and habitats; and (ii) to maintain or restore the favourable conservation status of these species and habitats. Key milestones towards meeting the objectives of the Birds and Habitats Directives are: (i) the setting up of a coherent Natura 2000 network; (ii) the designation of sites of community importance (SCIs) as SACs[20]; and (iii) the setting of site-specific conservation objectives and measures for all Natura 2000 sites.

Setting up a coherent network of Natura 2000 sites

Cyprus hosts 42 habitat types[21] and 55 species[22] covered by the Habitats Directive. The country also hosts populations of 93 bird taxa, which are listed in Annex I to the Birds Directive[23].

By 2021, 29.3% of the terrestrial area under the effective control of the Government of the Republic of Cyprus was covered by Natura 2000 (EU coverage 18.5%), with special protection areas (SPAs) classified under the Birds Directive covering 26.9% (EU coverage 12.8%) and sites of Community importance (SCIs) under the Habitats Directive covering 16.7% (EU coverage 14.2%) of the Cypriot territory.

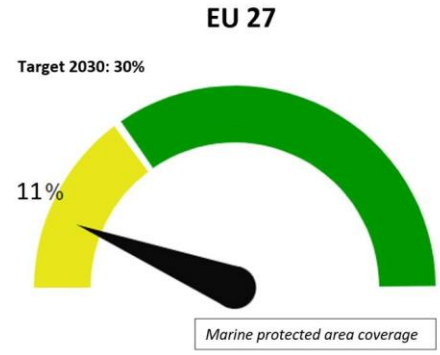
Cyprus has designated 66 Natura 2000 sites to date. The latest assessment of the SCI part of the Natura 2000 network shows that there are insufficiencies in designation, mainly failing to propose an exhaustive list of SCIs and provide all necessary information on each proposed site and not classifying the most suitable territories in the Cypriot offshore waters as SPAs. Therefore, Cyprus has still to complete its Natura 2000 network, in particular the marine network. An infringement case is open on the matter and the Commission has called on Cyprus to take the necessary measures[24].

Taking account of both Natura 2000 and other nationally designated protected areas, Cyprus legally protects 37.7% of its terrestrial areas (compared with

[16] These should be reinforced by the Nature Restoration Law, according to the new EU biodiversity strategy.
[17] Biodiversity Strategy and Action Plan CY.pdf (moa.gov.cy).
[18] https://www.cbd.int/doc/world/pt/pt-nbsap-v2-pt.pdf
[19] Natura 2000 comprises sites of Community importance (SCIs) designated under the Habitats Directive as well as special protection areas (SPAs) classified under 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.
[20] Sites of Community importance (SCIs) are designated under the Habitats Directive whereas special protection areas (SPAs) are designated under 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) are SCIs designated by the Member States.
[21] EEA, Article 17 dashboard, Annex I total, 2019.
[22] EEA, Article 17 dashboard, Annex II + Annex IV excluding those in Annex II + Annex V excluding those in Annex II, 2019. This counting only takes into account species and habitats for which assessment of conservation status was requested.
[23] EEA, Article 12 dashboard, Annex I, 2020. This counting only takes into account birds taxa for which information was requested.
24 April infringements package: key decisions (europa.eu)

the EU-27 average of 26.4%) and 8.6% of its marine areas (EU-27 average 10.7%)[25].

Figure 6: Marine & terrestrial protected area coverage, 2021[26]



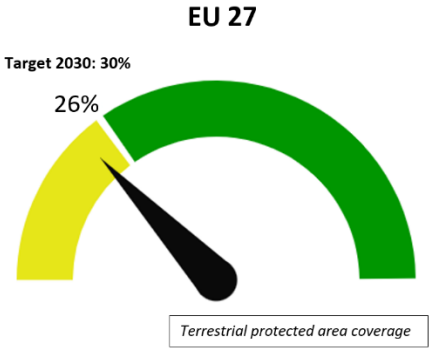
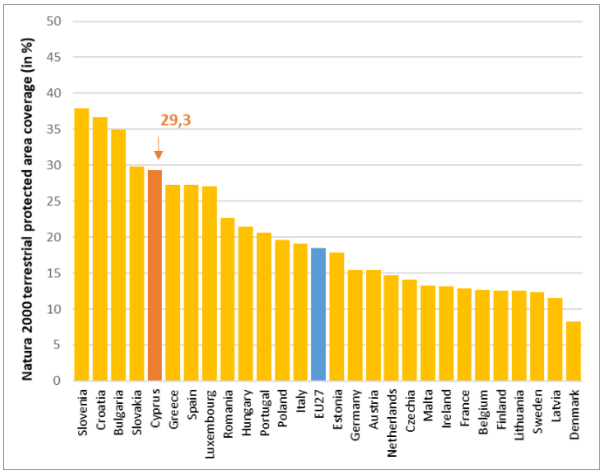


Figure 7: Natura 2000 terrestrial protected area coverage, 2021[27]



Designating specialaAreas of conservation (SACs) and setting conservation objectives and measures

The 6-year deadline set by the Habitats Directive for designating SCIs as SACs and establishing appropriate conservation objectives and measures has expired for 37 sites in Cyprus.

Three SCIs had not been designated as SACs by the deadline. However, Cyprus managed to accomplish this in July 2021 and to set conservation objectives for all three. Nevertheless, site-specific conservation objectives have only been established for 34 SCIs and conservation measures have only been established for four SACs.

According to the Commission's assessment, the quality of the conservation objectives and measures set by Cyprus is insufficient. The objectives are not measurable, not reportable, and not comprehensive or sufficiently detailed. The measures are generic and identical for the four sites, with very little detail.

Moreover, although Cyprus has drawn up management plans for most SCIs, but the majority are outdated. These management plans only serve as guidance documents and are not expected to have any legal status or be approved by any specific entity or authority. This is why the Commission has initiated an infringement procedure. Therefore, Cyprus still needs to provide for the necessary conservation objectives and measures of the already designated sites.

[25] EEA, Protected Areas, terrestrial protected area percentage (2021) and marine protected area percentage (2019), March 2022.
[26] EU Biodiversity Strategy Dashboard, indicators A1.1.1 and A1.2.1, February 2022.
[27] European Environment Agency, Natura 2000 Barometer, February 2022.

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

To measure the performance of Member States, Article 17 of the Habitats Directive and Article 12 of the Birds Directive require reporting on the progress made towards maintaining or restoring the favourable conservation status of species and habitats.

According to the report submitted by Cyprus on the conservation status of habitats and species covered by Article 17 of the Habitats Directive for 2013-2018, the proportion of habitats assessed as being in a good conservation status in 2018 is 45.24%, almost half of the proportion (97.62%) reported in the previous reporting period (2007-2012). to the proportion of protected species assessed as being in a good conservation status in 2018 is 63.64%, less than the 69.09% reported in 2007-2012[28]. Regarding birds, 81% of breeding species showed short-term increasing or stable population trends (for wintering species the proportion was 40.74%).

At the same time, the share of habitats with a bad conservation status has increased to 35.71% and the share of assessments for species in bad conservation status has also increased to 3.64%. The main pressures on habitats and species are the development and operation of transport systems and development, construction and use of residential, commercial, industrial and recreational infrastructure.

Figure 8: Assessments on conservation status for habitats for 2007-2012 and 2013-2018 reporting periods[29]

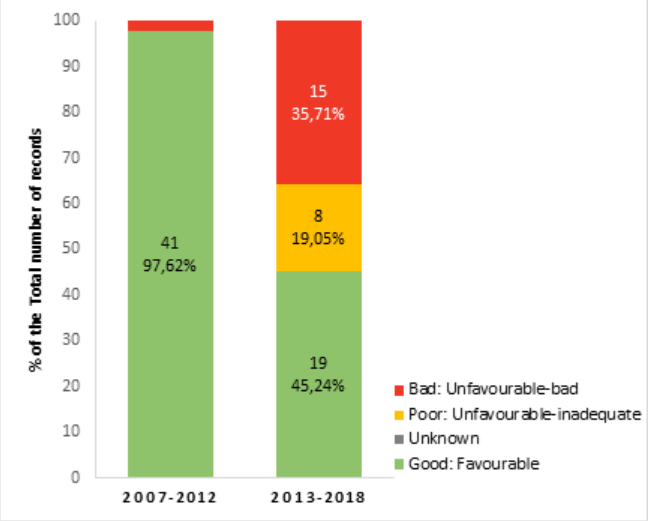
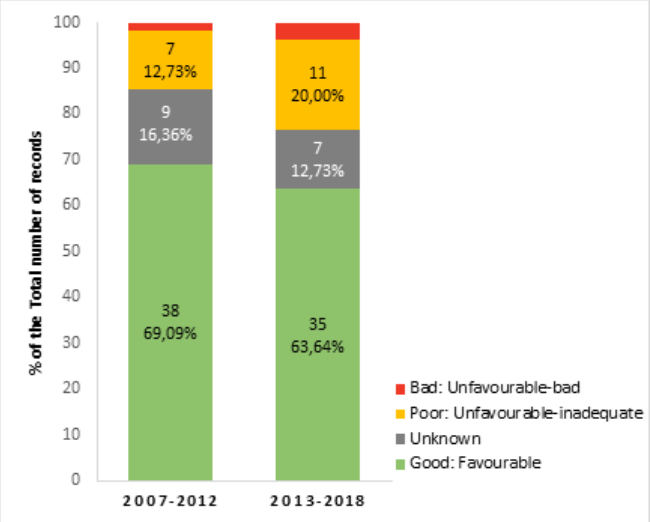


Figure 9: Assessments on conservation status for species for 2007-2012 and 2013-2018 reporting periods[30]



There seems to be a general lack of progress in maintaining or restoring the favourable conservation status of species and habitats protected under the nature directives.

A major challenge in managing the Natura 2000 areas effectively is protecting them from activities or developments that fragment or degrade them. This is, especially the case for plans and projects in areas

[28] The aforementioned differences between the two Art. 17 reporting periods under the Habitats Directive (2008-2013 and 2013-2018) mainly arose of the different methodology used. During the 2013-2018 reporting period, monitoring protocols (developed according to EU guidelines) for both habitats and species were completed.

[29] European Environment Agency, Conservation status and trends of habitats and species, December 2021. Please note when comparing the figures shown for 2007-2012 and 2013-2018 these may also be affected by changes of methods or due to better data availability.

[30] Idem.

located within private land, that often fail to comply with the appropriate assessment and permitting requirements laid down in Article 6 of the Habitats Directive. The Commission has opened an infringement procedure against Cyprus for systematic breaches of Article 6(3) (appropriate assessment of a plan or project). Complaints have also been made regarding breaches of Article 6(4) (imperative reasons of overriding public interest in case of negative assessment of a plan or project). The sound management of these areas is also undermined by the lack of understanding and acceptance of Natura 2000 rules by some local communities and land owners. This is a major challenge in Cyprus, where a large part of designated Natura 2000 areas (mainly agricultural land) is private land.

Another challenge in implementing nature legislation is the illegal trapping of wild birds, especially migratory birds (blackcaps – 'ambelopoulia'), with nets, lime-sticks and sound-producing devices. Although progress has been made (especially on reducing mist-netting) due to intensified enforcement (e.g. through controls and stricter fines for mist-nets through the new national legislation approved in July 2017), the trapping numbers remain unacceptably high, mainly driven by illegal consumption. It is important that the Cypriot authorities continue their enforcement efforts, including by imposing effective and dissuasive penalties[31] especially on the major offenders.

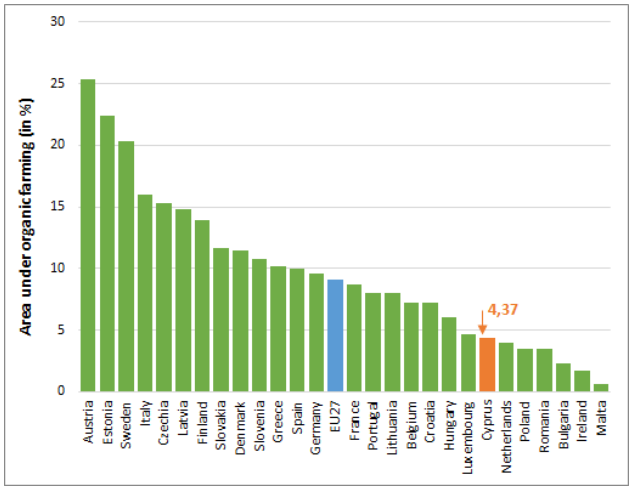
Bringing nature back to agricultural land and restoring soil ecosystems

Agricultural land

The biodiversity strategy works alongside the new farm to fork strategy and the new common agricultural policy (CAP) to support and achieve the transition to fully sustainable agriculture.
The biodiversity and farm to fork strategies have set four important targets for 2030:
- a 50% reduction in the overall use of – and risk from – chemical pesticides;
- a 50% reduction in the use of more hazardous pesticides;
- a 50% reduction in losses of nutrients from fertilisers while ensuring there is no deterioration of soil fertility (which will result in a 20% reduction in the use of fertilisers);
- bring back at least 10% of agricultural area under high-diversity landscape features and increase areas under organic farming to at least 25%.

As shown in Figure 10, Cyprus with an estimated 4.37% of its area under organic farming is significantly below the EU average of 9.07% (2020 data, Eurostat).

Figure 10: Share of total utilised agricultural area occupied by organic farming per Member State, 2020[32]



According to the Commission's recommendations for Cyprus' CAP strategic plan[33], total ammonia (NH3) emissions in Cyprus were relatively stable between 1995 and 2010, after which they steadily decreased in 2015. 97% of the total reported ammonia emissions in Cyprus come from agricultural sources.

On soil quality, 7.2% of agricultural areas in Cyprus were at severe risk of soil erosion by water in 2016, in line with the EU average. The amount of soil organic matter in arable land in Cyprus is one of the lowest in the EU. Despite the pressures to increase soil quality, only 1% of agricultural land is contractually obliged to improve soil, far below the EU average of 12%.

Regarding biodiversity, according to the latest report on the implementation of nature legislation, 50% of Cyprus' grassland habitats type in favourable conservation status. Agriculture is the second biggest pressure on biodiversity, affecting 60% of habitats and 47% of species.

The total area under organic farming remained rather stable in Cyprus between 2016 and 2019. However, the area is small (5% of Cyprus total UAA) compared to the EU-27 average. Organic areas and producers of organic food hstarted to increase as from 2012, but as there is no clear upwards trend in areas under conversion to organic farming, the future development of this sector is not ensured.

[31] Since the relevant amendment of legislation in 2017, the average fine imposed has increased from EUR 502 to EUR 1 696, comparing to pre-2017 levels.

[32] https://ec.europa.eu/eurostat/databrowser/view/sdg_02_40/default/table?lang=en (Eurostat, Area under organic farming, February 2022).

[33] EUR-Lex - 52020SC0370 - EN - EUR-Lex (europa.eu)

Soil ecosystems

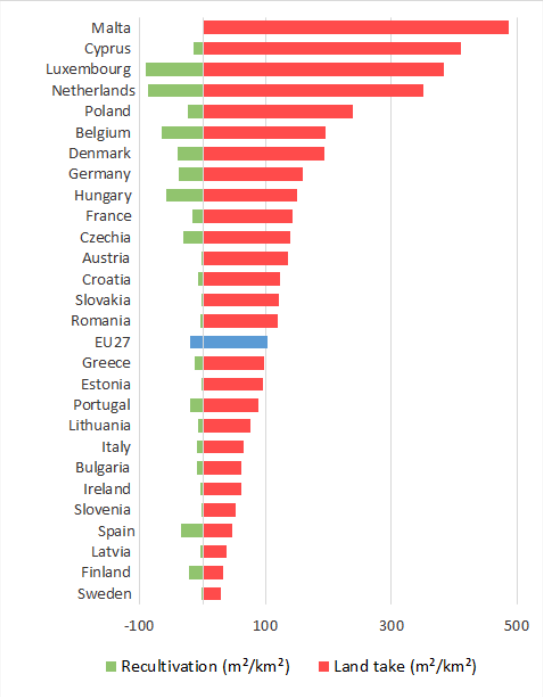
Soil is a finite and extremely fragile resource. It is increasingly degrading in the EU.
The new EU soil strategy, adopted on 17 November 2021, stresses the importance of soil protection, of sustainable soil management and of restoring degraded soils to achieve the Green Deal objectives as well as land degradation neutrality by 2030.
This entails:
(i) preventing further soil degradation;
(ii) making sustainable soil management the new normal;
(iii) taking action for ecosystem restoration.

One factor in the degradation of soil ecosystems is the area of soil that is sealed or artificialised[34]. In Cyprus (Figure 11) the land taken per year in the period 2012-2018 can be seen as a measure of one significant pressure on nature and biodiversity, land use change. At the same time, land use change constitutes an environmental pressure on people living in urbanised areas.

With 396.3 m²/km², Cyprus ranks well above[35] the EU average on net land take (EU-27 average: 83.8 m²/km²), coming second after Malta. In proportion to its area, Cyprus was one of the two Member States that saw the largest amount of land take between 2000 and 2018 with 6.4% of soil sealed or artificialised.

In 2018, Cyprus updated its reporting on land degradation according to the next PRAIS3 reporting platform[36] with actions intended to achieve the degradation identified.

Figure 11: Land take and re-cultivation in EU27 (m2/km2), 2012-2018[37]



However, Cyprus has not yet committed to setting land degradation neutrality targets under UNCCD[38-39].

As stated in the 2019 EIR, soil organic matter plays an important role in the carbon cycle and in climate change. Soils are the second largest carbon sink in the world after the oceans.

Forests and timber

The EU forest strategy for 2030, adopted in July 2021, is part of the 'Fit for 55' package. The strategy promotes the many services that forests provide. Its key objective is to ensure healthy, diverse and resilient EU forests that contribute significantly to the strengthened biodiversity and climate ambitions.
Forests are important carbon sinks and conserving them is vital if the EU is to achieve climate neutrality by 2050.

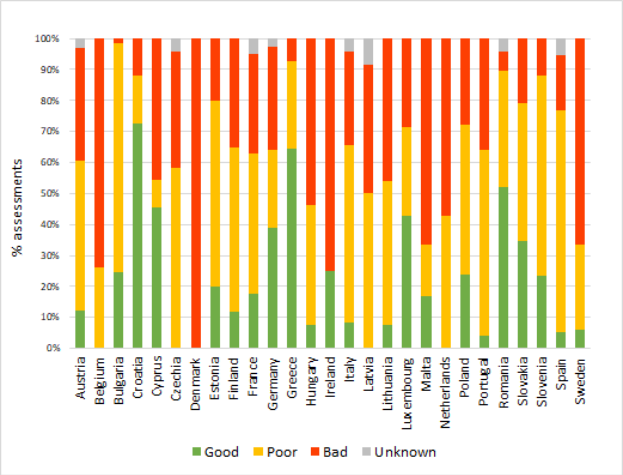
Of the 27% of EU forest area protected under the Habitats Directive, less than 15% of assessments show a favourable conservation status[40]. Bad conservation status increased from 27% to 31% in the EU compared to 2015.

[34] Artificial land cover is defined as the total of roofed built-up areas (including buildings and greenhouses), artificial non built-up areas (including sealed area features, such as yards, farmyards, cemeteries, car parking areas etc. and linear features, such as streets, roads, railways, runways, bridges) and other artificial areas (including bridges and viaducts, mobile homes, solar panels, power plants, electrical substations, pipelines, water sewage plants, and open dump sites).
[35] Land take in Europe - European Environment Agency (europa.eu) fig 6
[36] All Reports | Prais3 (unccd.int)

[37] European Environment Agency, Land take in Europe, December 2021.
[38] The LDN Target Setting Programme | UNCCD
[39] Cyprus is finalising its desertification startegy and national action plan which includes land degradation neutrality targets under the UNCCD.
[40] EEA, State of Nature in the EU

In Cyprus, forests cover 20.62% of territory[41] and more than 50% of the assessments reveal a bad to poor status[42].

Figure 12: Conservation status of forests protected under the Habitats Directive in EU-27, 2013-2018 (% assessments)[43]



The European Union Timber Regulation (EUTR)[44] , prohibits the placing on the EU market of illegally harvested timber. In accordance with the EUTR, EU Member States' competent authorities must conduct regular checks on operators and traders, and apply penalties for non-compliance. With the amendment of Article 20 of the EUTR, reporting every 2 years has been changed to annual reporting, and covers the calendar year as of 2019.

Between March 2017 and February 2019[45], Cyprus carried out 279 checks on domestic timber operators. It also carried out 1 checks on operators importing timber. It is estimated that Cyprus had 62 operators placing domestic and 780 operators placing imported timber types onto the internal market over the reporting period.

The new Deforestation Regulation[46] will repeal and replace the EUTR, as it will essentially integrate and improve the existing system to check the legality of timber.

Invasive alien species (IAS)

IAS are a key cause of biodiversity loss in the EU (alongside changes in land and sea use, overexploitation, climate change and pollution).
Besides inflicting major damage on nature and the economy, many invasive alien species also facilitate the outbreak and spread of infectious diseases, posing a threat to humans and wildlife.
The implementation of the EU Invasive Alien Species Regulation and other relevant legislation must be stepped up.
The biodiversity strategy for 2030 aims to manage recognised invasive alien species and decrease the number of 'red list' species they threaten by 50%.

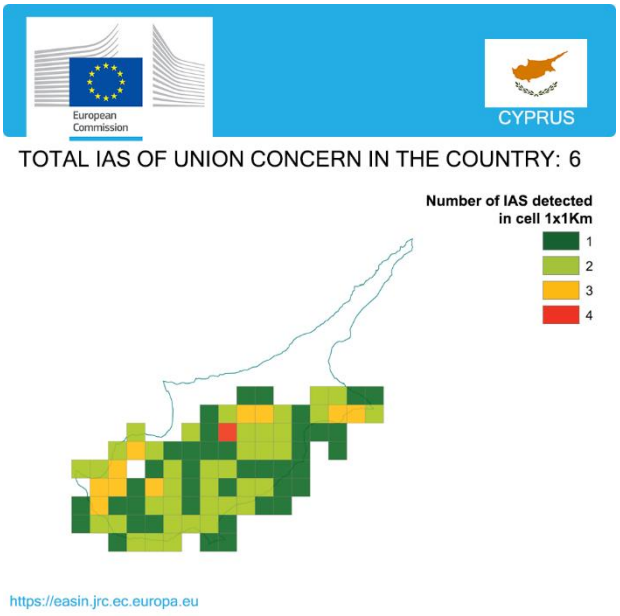
The core of the Regulation on invasive alien species[47] (the IAS Regulation) is the list of IAS of Union concern.

According to the 2021 report[48] the implementation of the IAS Regulation is already starting to deliver on its objectives such as a coherent framework for addressing IAS at EU level and increased awareness of the problem of invasive alien species. However, the report also identified some challenges and areas for improvement. Given that the deadlines for various obligations under the IAS Regulation applied gradually between July 2016 and July 2019, it is premature to draw conclusions on several aspects of the implementation of the IAS Regulation.

A 2021 report[49] on the baseline distribution of IAS shows that of the 66 species on the EU list, 6 have been observed in the environment in Cyprus. The spread is shown in the figure below.

Figure 13: Number of IAS of EU concern, based on available georeferenced information for Cyprus, 2021

[41] EEA, Forest information system for Europe.
[42] COM SWD (2021) 652
[43] European Environment Agency, Conservation status and trend in conservation status by habitat group - forests, January 2022.
[44] Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010.
[45] COM/2020/629 final
[46] A proposal for the Regulation on the making available on the EU market and export of products associated with deforestation and forest degradation
[47] Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species
[48] Report from the Commission to the European Parliament and the Council on the review of the application of Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, COM(2021) 628 final, 13.10.2021.
[49] Cardoso A.C., Tsiamis K., Deriu I., D' Amico F., Gervasini E., EU Regulation 1143/2014: assessment of invasive alien species of Union concern distribution, Member States reports vs JRC baselines, EUR 30689 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-37420-6, doi:10.2760/11150, JRC123170.



An infringement case has been launched against Cyprus for failing to draw up and implement a single action plan or set of action plans as requiredby Article 13 of the IAS Regulation by 13 July 2019 and to submit it/them to the Commission without delay.

2022 priority action

- Complete the SCI and SPA designations, especially in offshore marine waters. Complete the SAC designation process and ensure that the respective Ministerial Decrees include clear site-specific conservation objectives and measures, and clearly identified competences for managing them. Provide adequate human and financial resources for implementing the necessary conservation measures and enforcing the applicable rules in the sites, including by carrying out systematic inspections and setting adequate fines. Set up a broad awareness-raising campaign for specific stakeholders (farmers, hunters, the tourism sector, private owners, etc.) and the public on Natura 2000 and its benefits.
- Continue efforts to improve the 'appropriate assessment' process (by ensuring that all plans and projects with likely significant impacts are subject to an assessment, best available data are used, consultations and decisions are transparent and accessible) and to prevent deterioration of Natura 2000 sites from damaging developments.
- Take capacity building measures to increase awareness and expertise of competent authorities (including local planning authorities) on Article 6(3) and 6(4) procedures, and take measures to address potential conflicts of land use rights enshrined in the Town and Country Planning Law, with the nature directives.
- Strengthen law enforcement efforts to eliminate illegal bird trapping and killing, in cooperation with all parties involved and addressing all aspects of the issue, especially through more effective controls and inspections in restaurants and in trapping fields, enhancing the capacity and means of the authorities involved, introducing fines for all trapping methods, and increasing the awareness of judges and prosecutors.
- Step up action on implementing the recommendations set out in the Cypriot CAP strategic plan.
- Step up implementation of the EU Invasive Alien Species (IAS) Regulation, including the approval and dissemination of pathway action plans required by Article 13, and the creation of species action plans for the effective management of invasive species.

Marine ecosystems

The EU biodiversity strategy for 2030 calls on Member States to better integrate biodiversity considerations into public and business decision making at all levels and to develop natural capital accounting. The EU needs a better performing biodiversity observation network and more consistent reporting on the condition of ecosystems.[50].

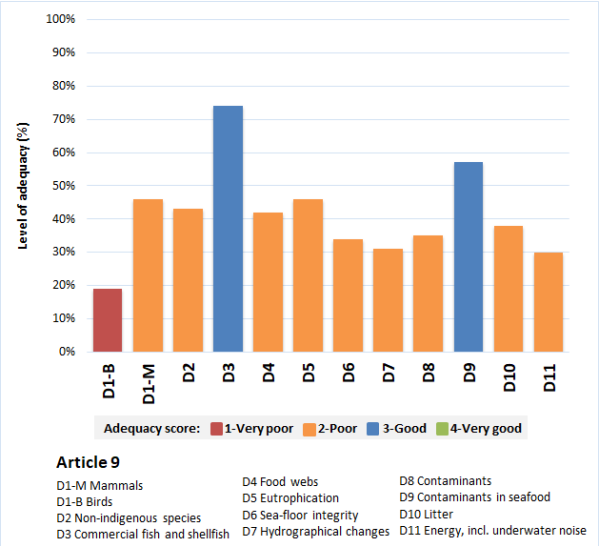
The Marine Strategy Framework Directive (MSFD) requires Member States to achieve good environmental status (GES) of their marine waters. To that end, Member States must draw up marine strategies for their marine waters, and cooperate with Member States sharing the same marine region or sub-region. These marine strategies comprise different steps to be developed and implemented over six-year cycles.

The MSFD also requires Member States by 15 October 2018 to draw up a set of GES characteristics for each descriptor (Article 9), and to provide an initial assessment of their marine waters (Article 8). The Commission then assesses whether this constitutes an appropriate framework to meet the requirements of the Directive.

[50] The EU Common Fisheries Policy (CFP) aims to contribute to the achievement of the objectives of the environmental legislation for marine ecosystems.

The Commission assessed Cyprus' 2018 determinations of GES for each of the MSFD's 11 descriptors[51] and determined their level of adequacy in relation to the Commission GES Decision[52]. A good or very good score indicates that the national determinations of GES are well aligned with the requirements of the Commission GES Decision, providing qualitative and quantitative national environmental objectives for their marine waters.

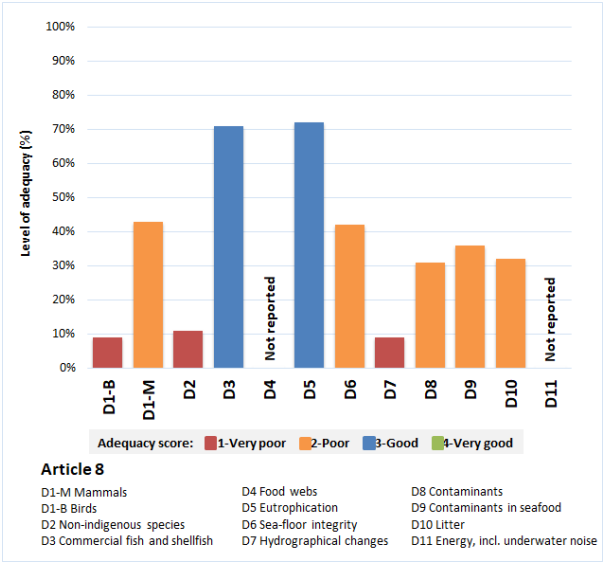
Figure 14: Level of adequacy of GES determination by Country (MAL region) with criteria set under the Commission GES Decision – Article 9 (2018 reporting exercise)[53]



Cyprus has one marine sub-region, MAL-Mediterranean: Aegean-Levantine Sea. In this marine sub-region, 2 out of 11 determinations of GES were assessed as good or very good. The national determination of GES by Cyprus is coherent for 2 out of 11 descriptors.

The MSFD also requires that Member States make an assessment of the current environmental status of their marine waters in relation to the determination of GES. A good or very good score indicates that Member States are well able to assess their marine environment in accordance with the requirements set out in the Commission GES Decision.

Figure 15: Level of adequacy of national assessment of Country's marine environment (MAL region) with criteria set under the Commission GES Decision – Article 8 (2018 reporting exercise)[54]



Two descriptors out of 11 were assessed as good or very good. Cyprus's assessment of its marine environment is coherent with requirements set under the Commission GES Decision for 2 out of 11 descriptors. Cyprus is missing data for two descriptors: D4 Food webs and D11 Energy, inclunding underwater noise.

Cyprus has neither signed nor ratified the Protocol on Integrated Coastal Zone Management in the Mediterranean.

As highlighted in the Commission's report on the implementation of the MSFD[55], while regional cooperation has improved since the adoption of the MSFD, more cooperation is needed to attain full regional coherence of the marine strategies, as required by the Directive.

In the 2019 EIR, the Commission suggested that Cyprus should provide more information on its measures and introduce more measures that would have a direct impact on the sources of pressure, and also quantify the expected level of reduction of the sources of pressure as a result of these measures. It was also recommended that Cyprus report on the various MSFD elements by the given deadline and ensure regional cooperation with Member States sharing the same marine (sub) region to address the leading sources of pressure. Cyprus made some progress on the above actions. However, further action is needed to achieve GES in the descriptors assessed as poor (see Figures 14 and 15 above).

[51] Annex I of Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive), OJ L 164, 25.6.2008, p. 19-40.

[52] This assessment was made in relation to the 'Commission GES Decision', Commission Decision No 2017/848, pp. 43-74.

[53] Assessment carried out by the European Commission of the data reported by the MS, January 2022. Please note that only two sub-sections of descriptor D1 are displayed (D1-M Mammals and D1-B Birds). For the analysis, these two sub-sections were considered as a whole after averaging them.

[54] Idem.

[55] COM(2020)259

Furthermore, in March 2022, the European Commission published a Communication with recommendations for Member States. The Commission assessment highlights that Member States need to step up their efforts to determine the good environmental status and the use of the criteria and methodological standards according to the Commission GES Decision. The above considerations form the basis for the 2022 priority actions.

2022 priority actions

- Implement the recommendations made by the Commission in the staff working document[56] accompanying the Communication[57] on recommendations per Member States and region on the 2018 updated reports for Articles 8, 9 and 10 of the MSFD.
- Ensure regional cooperation with Member States sharing the same marine (sub) region to address the main pressures.
- Sign and ratify the Protocol on Integrated Coastal Zone Management in the Mediterranean.

Ecosystem assessment and accounting

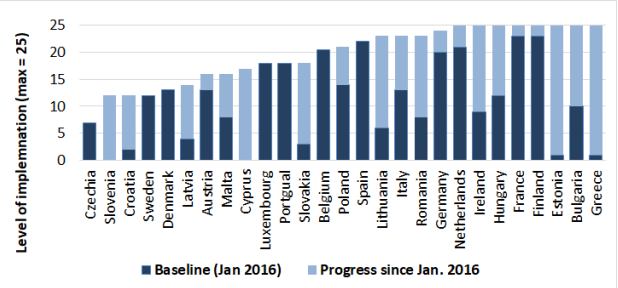
The EU biodiversity strategy for 2030 calls on Member States to better integrate biodiversity considerations into public and business decision making at all levels and to develop natural capital accounting. The EU needs a better performing biodiversity observation network and more consistent reporting on the condition of ecosystems.

Cyprus has set up a Coordination Committee for the implementation of MAES actions, working under the Minister of Agriculture, Rural Development and Environment.

Cyprus completed three studies in 2015, 2017 and 2018. The first one set out a roadmap for the implementation of an evaluation framework for ecosystem services in Cyprus. The second focused on the mapping and assessment of ecosystem services. The third presented a case study on wetland and river ecosystems for the mapping and assessment of ecosystem services.

Cyprus has provided updated information for the first time (Figure 16). This assessment is based on 27 implementation questions and updated every 6 months.

Figure 16: ESMERALDA MAES Barometer, January 2016 – March 2021[58]



2022 priority action

- Continue to support the mapping and assessment of ecosystems and their services, and ecosystem accounting development, be determining appropriate indicators on integrating ecosystem extent, condition and services (including some monetary values) into national accounts. Continue to support the development of national business and biodiversity platforms, including natural capital accounting systems to monitor and put a value on the impact of business on biodiversity.

[56] SWD(2022)1392

[57] COM(2022)550.

[58] http://esmeralda-project.eu/

3. Zero pollution

Clean air

EU clean air policies and legislation need to significantly improve air quality in the EU, moving the EU closer to the quality recommended by the WHO and curbing emissions of key air pollutants.
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 EU clean air legislation and defining strategic targets and actions for 2030 and beyond.
The 2030 zero pollution action plan targets are to reduce the health impacts of air pollution by 55% and to reduce the EU ecosystems threatened by air pollution by 25%, compared to 2005.

The 2030 zero pollution action plan targets are to reduce the health impacts of air pollution by 55% and to reduce the EU ecosystems threatened by air pollution by 25%.The EU has developed a comprehensive body of air quality legislation, which sets health-based standards[59] and emission reduction commitments[60] for a number of air pollutants.

Air quality in Cyprus is generally good, but with some exceptions. The latest available annual estimates (for 2019) by the European Environment Agency[61] point to about 700 premature deaths (or 7 200 years of life lost (YLL)) attributable to fine particulate matter concentrations[62], 40 (400 YLL) to ozone concentrations[63] and 130 (1 400 YLL) to nitrogen dioxide concentrations[64] [65].

Emissions of key air pollutants have decreased significantly in Cyprus, while GDP growth continued (see graph). According to the latest projections, as submitted under Article 10(2) of the National Emission Reduction Commitments Directive (NECD)[66], Cyprus expects to fulfil the emission reduction commitments for all air pollutants covered by the Directive from 2030 onwards. However, according to projections, it will not meet its 2020-2029 emission reduction commitments for SO_2 and NO_x. The latest inventory data submitted by Cyprus, which have not yet been reviewed by the Commission, indicate that in 2020 Cyprus met its emission reduction commitments for NO_x, NMVOC, NH_3 and $PM_{2.5}$, but not for SO_2.

Cyprus submitted its national air pollution control programme on 27 May 2019.

Figure 17: Emission trends of main pollutants/ GDP in Cyprus 2005-2019[67]

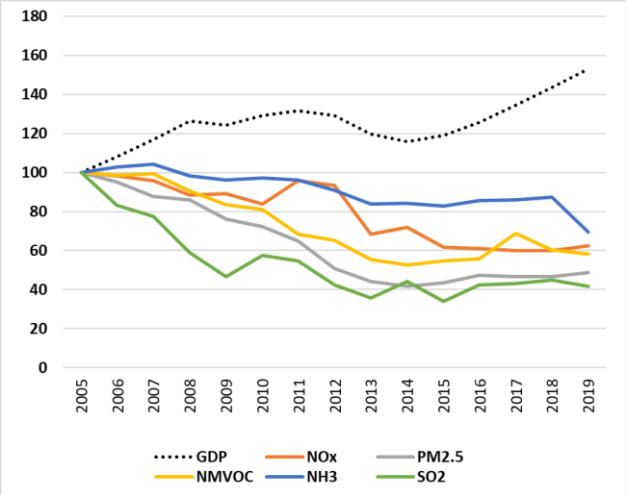
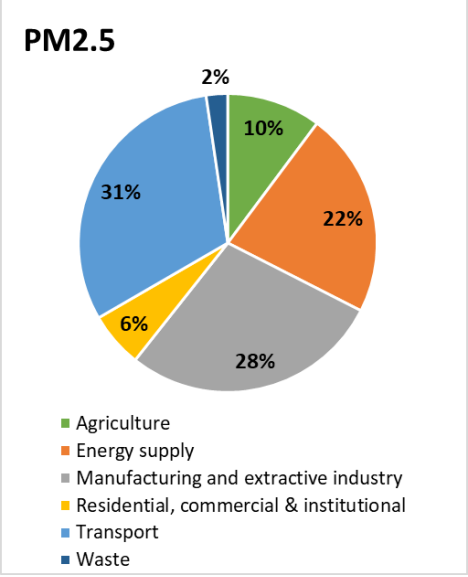
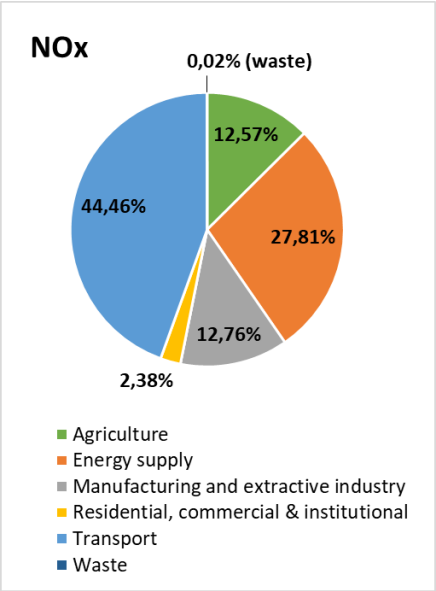


Figure 18: $PM_{2.5}$ and NOx emissions by sector in Cyprus, 2019[68]



[59] European Commission, 2016. Air Quality Standards
[60] European Commission, Reduction of National Emissions
[61] European Environment Agency, Air Quality in Europe –2021 Rapport, See page 106 for details on the underpinning methodology, p.106
[62] Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many human sources, including combustion.
[63] Low-level ozone is produced by photochemical action on pollution.
[64] 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 (NO_2).
[65] Please note that these figures refer to the impacts of individual pollutants, and to avoid double-counting cannot be added up to derive a sum.
[66] Directive 2016/2284/EU.
[67] European Environment Agency.
[68] European Environment Agency.



For 2020, no exceedances above the limit values established by the *Ambient Air Quality Directive (AAQD)* were registered. However, the target values regarding ozone concentration have not been met[69].

In the 2019 EIR, Cyprus received a priority action to take specific actions under the national air pollution control programme (NAPCP). However, as it made limited progress in this respect, the action repeated.

2022 priority actions

- As part of the national air pollution control programme, take steps towards reducing emissions from the main sources mentioned above.
- Ensure full compliance with the EU air quality standards and maintain downward emissions trends for air pollutants, to reduce adverse air pollution impacts on health and the economy with a view to reaching WHO guideline values in the future.

Industrial emissions

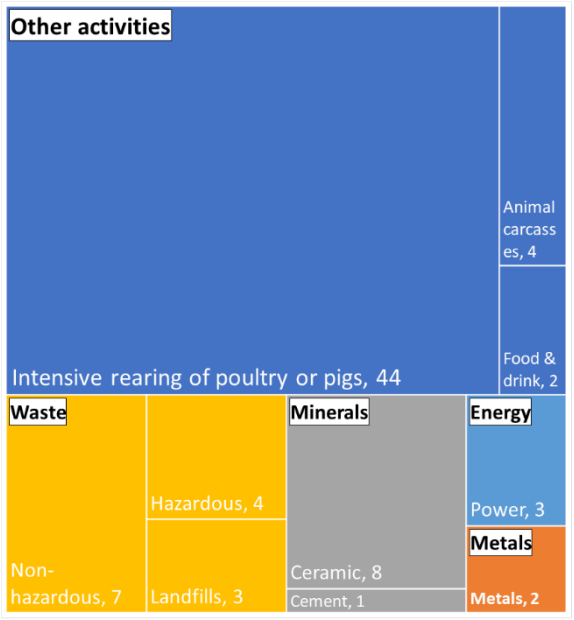
The main objectives of EU policy on industrial emissions are to:
(i) protect air, water and soil;
(ii) prevent and manage waste;
(iii) improve energy and resource efficiency;
(iv) clean up contaminated sites.
To achieve this, the EU takes an integrated approach to the prevention and control of routine and accidental industrial emissions. The cornerstone of the policy is the Industrial Emissions Directive [70] (IED).
As announced in the European Green Deal, the Commission carried out an impact assessment for the revision of the IED in 2021 with a view to tabling a proposal in early 2022 [71]. The revision seeks to improve the Directive's contribution to the zero pollution objective, as well as its consistency with climate, energy and circular economy policies.

The below overview of industrial activities regulated by the IED is based on data reported to the EU Registry (2018)[72].

In Cyprus, around 80 industrial installations are required to have a permit based on the IED. The distribution of installations is shown in the figure below.

The industrial sectors in Cyprus with most IED installations in 2018 were intensive rearing of poultry or pigs (56%), the waste management sector (18%) and ceramics production (10%).

Figure 19: Number of IED industrial installations per sector in Cyprus, 2018[73]



[69] European Environment Agency, Eionet Central Data Repository

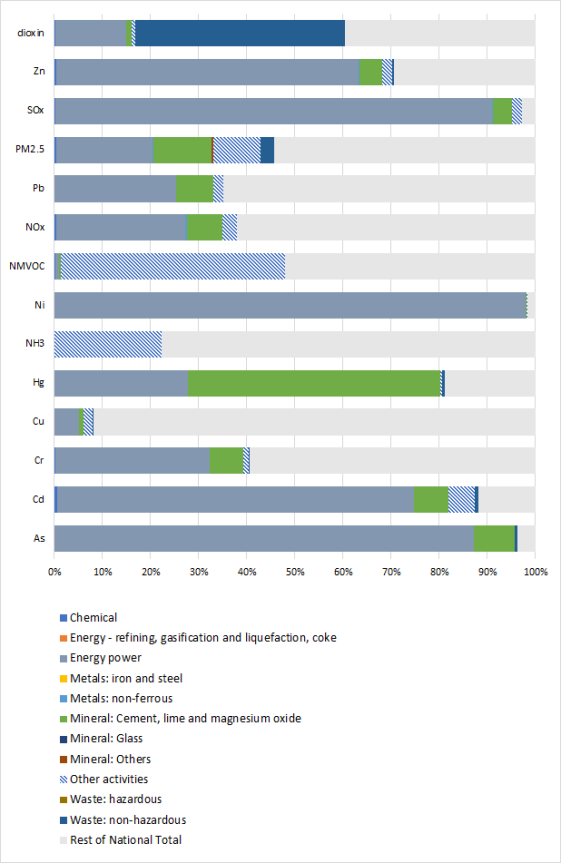
[70] Directive 2010/75/EU covers industrial activities carried out above certain thresholds. It covers the energy industry, metal production, the mineral and chemical industry and waste management, as well as a wide range of industrial and agricultural sectors (e.g. intensive rearing of pig and poultry, pulp and paper production, painting and cleaning).

[71] The revision of the IED is performed in parallel to the revision of Regulation (EC) No 166/2006 on the European Pollutant Release and Transfer Register (E-PRTR).

[72] European Environment Agency, European Industrial Emissions Portal.

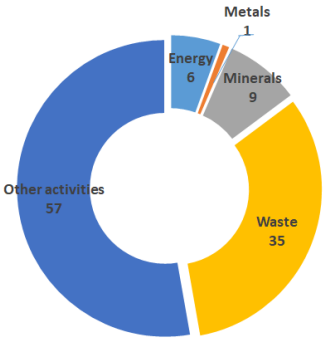
[73] European Environment Agency, EU Registry, European Industrial Emissions Portal (data retrieved on 3 November 2021).

Figure 20: Emissions to air from IED sectors and rest of national total air emissions in Cyprus, 2018[74]



The EU approach taken to enforcement under the IED creates strong rights for citizens to have access to relevant information and to participate in the permitting process. This empowers citizens, and NGOs, to ensure that permits are appropriately granted and their conditions respected. As part of environmental inspection, competent authorities undertake site visits to IED installations to take samples and to gather necessary information. According to Article 23(4) of the IED, site visits are carried out between once every year and once every 3 years, depending on the environmental risks posed by the installations. In 2018 Cyprus undertook 108 site visits, the majority of which to intensive rearing of poultry or pigs (49%) under other activities, to the waste management sector (32%), minerals sector (8%) and power production (6%).

Figure 21: Number of inspections in IED installations in 2018 in Cyprus, 2018[75]



The development of best-available-technique (BAT) reference documents (BREFs) and BAT conclusions ensures good collaboration between stakeholders and enables a better implementation of the IED[76]. Since the last EIR report, the Commission adopted BAT conclusions for Cyprus for: (i) waste incineration; (ii) the food, drink and milk industries; and (iii) surface treatment using organic solvents including the preservation of wood and wood-products with chemicals.The Commission relies on the efforts of national competent authorities to implement the legally binding BAT conclusions and associated BAT emission levels in environmental permits. This should result in considerable and continuous reductions in pollution.

In 2019, Cyprus received the priority actions to review permits and to strengthen control and enforcement to ensure compliance with newly adopted BAT conclusions. The Commission has been monitoring progress, as reported by Cyprus to the EU registry, and is currently verifying with Cyprus that the reported information on the permits granted for each installation is in line with the IED.

Cyprus also received a priority action on the odour from the high number of installations for poultry or pigs, which are often situated close to residential areas. The Commission is following this up through the BAT conclusions on the intensive rearing of poultry or pigs, which were supposed to be reflected in permits by February 2021.

[74] European Environment Agency, LRTAP, Air pollutant emissions data viewer (Gothenburg Protocol, LRTAP Convention) 1990-2019 (data retrieved on 3 November 2021).

[75] European Environment Agency, E-PRTR, European Industrial Emissions Portal. The heavy metals are presented both as a weighted sum of eco toxicity and human toxicity factors to illustrate both the ecological and human impact (based on USEtox) (data retrieved on 3 November 2021).

[76] European Commission

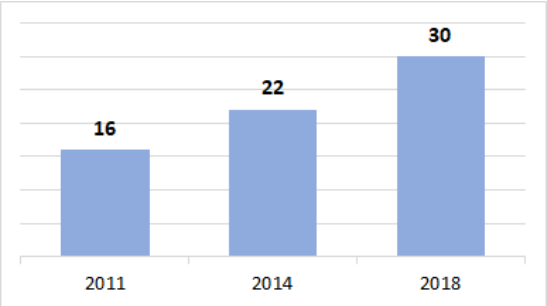
Prevention of major industrial accidents– SEVESO

The main objectives of EU policy on the prevention of major industrial accidents are to
(i) control major accident hazards involving dangerous substances, especially chemicals;
(ii) limit the consequences of such accidents for human health and the environment;
(iii) continuously improve prevention, preparedness and response to major accidents.
The cornerstone of the policy is Directive 2012/18/EU (the Seveso-III Directive) [77].

The below overview of industrial plants regulated by the Seveso-III Directive('Seveso establishments') is based on data reported to the eSPIRS database (2018)[78] and Cyprus' report on the implementation of the Seveso-III Directive for the period 2015-2018[79].

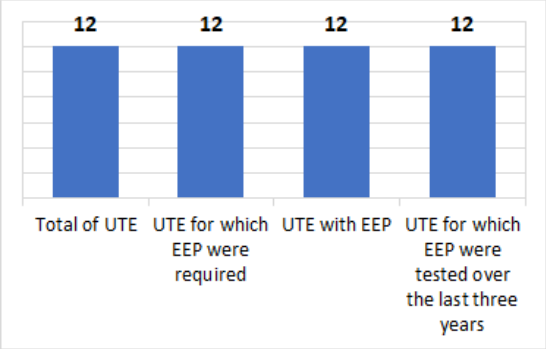
Of the 30 Seveso establishments in Cyprus, 18 are categorised as lower-tier establishments (LTEs) and 12 as upper-tier establishments (UTEs) – based on the quantity of hazardous substances likely to be present. The UTEs are subject to more stringent requirements. The growth in the number of Seveso establishments is presented in Figure 22.

Figure 22: Number of Seveso establishments in Cyprus, 2011, 2014 and 2018[80]



Many Seveso establishments are required to draw up external emergency plans (EEPs). These EEPs are essential to allow proper preparation and effective implementation of the necessary actions to protect the environment and the population should a major industrial accident occur at them. According to Cyprus, EEPs are required for 12 UTEs. In 2018, 12 UTEs had an EEP and 12 of these EEPs had been tested over the last 3 years. The summary is shown in Figure 23.

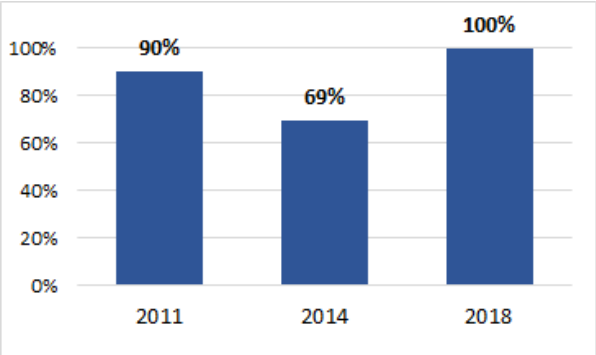
Figure 23: Situation regarding EEPs in Cyprus, 2018[81]



The public information referred to in Annex V to the Seveso-III Directive – especially about how the public affected will be warned in case of a major accident, appropriate behaviour in the event of a major accident, and the date of the last site visit – is permanently available for 100% of the Seveso establishments in Cyprus.

The share of UTEs for which information on safety measures and requisite behaviours were actively made available to the public in recent years are presented in Figure 24.

Figure 24: Share of UTEs for which information on safety measures and requisite behaviours was actively made available to the public in Cyprus, 2011, 2014 and 2018[82]



Noise

The Environmental Noise Directive[83] provides for a common approach to avoid, prevent and reduce the harmful effects of exposure to environmental noise although it does not set noise limits as such. Its main

[77] Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
[78] European Commission, Seveso Plants Information Retrieval System.
[79] As provided for by Article 21(2) of the Seveso-III Directive.
[80] European Commission, Assessment and summary of Member States' implementation reports for Implementing Decision 2014/896/EU (implementing Directive 2012/18/EU on the control of major accident hazards involving dangerous substances), 2022.
[81] Idem.
[82] Idem.
[83] Directive 2002/49/EC.

instruments in this respect are strategic noise mapping and planning. A key target under the 2030 zero pollution action plan is to reduce by 30% the share of people disturbed by transport noise.

Excessive noise from aircraft, railways and roads is one of the main causes of environmental health-related issues in the EU. It can cause ischaemic heart disease, stroke, interrupted sleep, cognitive impairment and stress[84].

In Cyprus, based on limited data, environmental noise is estimated to cause at least 50 premature deaths and 100 cases of ischaemic heart disease per year[85]. In addition, some 22 000 people suffer from disturbed sleep. According to the latest data (from 2012), aroundhalf a million citizens were exposed to noise in Cyprus. According to the latest full set of information that has been analysed, noise mapping of roads remains incomplete. Moreover, Cyprus still lacks action plans for some roads. These plans, which will undergo a public consultation, should include measures to reduce noise.

Cyprus received a priority action in the 2019 EIR to complete noise action plans, but there has been limited progress as detailed above. Therefore, this priority action is repeated, and another one is added on noise mapping.

2022 priority actions

- Complete noise mapping.
- Complete action plans for noise management for roads.

Water quality and management

EU legislation and policy requires that the impact of pressures on transitional, coastal and fresh waters (including surface and ground waters) be significantly reduced. Achieving, maintaining or enhancing a good status of water bodies as defined by the Water Framework Directive will ensure that EU citizens benefit from good quality and safe drinking and bathing water. It will further ensure that the nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.

[84] WHO 2018, Environmental Noise Guidelines for the European Region.

[85] These figures are an estimation by the European Environmental Agency based on: **(i)** the data reported by Member States on noise exposure covered by Directive 2002/49/EC; **(ii)** ETC/ATNI, 2021, Noise indicators under the Environmental Noise Directive 2021: Methodology for estimating missing data, ETC/ATNI Report No 2021/06, European Topic Centre on Air Pollution, Transport, Noise and Industrial Pollution; **(iii)** the methodology for health impact calculations, ETC/ACM, 2018, Implications of environmental noise on health and wellbeing in Europe, Eionet Report ETC/ACM No 2018/10, European Topic Centre on Air Pollution and Climate Change Mitigation.

Water Framework Directive

The Water Framework Directive (WFD)[86] is the cornerstone of the EU's water policy for the 21st century[87]. The WFD and other water-related directives[88] set the framework for sustainable and integrated water management, which aims at a high level of protection of water resources, prevention of further deterioration and restoration to good status.

By March 2022, Member States had to report the third set of river basin management plans (RBMPs) under the WFD. The Commission will assess the reported status and progress, checking what measures have been taken in response to the findings identified when the second RBMPs[89] were assessed. Cyprus has not yet reported the third RBMPs.

In December 2021, the Commission published the sixth implementation report, which assesses implementation of the WFD and the Floods Directive [90]. This report includes an interim assessment of progress on: (i) the implementation of the programmes of measures; and (ii) the new priority substances. The assessment report for Cyprus[91] showed that out of a total of 55 measures, 40 are in progress, while 6 are under preparation and 3 have not yet started.

The second RBMPs reports and data published in 2020[92], reveal that 58.3% of all surface water bodies in Cyprus[93] have good ecological status (with 1.8% unknown) and only 84.8% have good chemical status (with 11.8% unknown). For groundwaters, 33.3% failed to achieve good chemical status and 76.2% are in poor quantitative status.

The figure below illustrates the proportion of surface water bodies in Cyprus and other European countries that failed to achieve good ecological status.

[86] The Water Framework Directive (2000/60/EC).

[87] The EU Water Policy.

[88] This includes the Groundwater Directive (2006/118/EC), the Environmental Quality Standards Directive (2008/105/EC), the Floods Directive (2007/60/EC), the Bathing Water Directive (2006/7/EC), the Urban Waste Water Treatment Directive (91/271/EEC), the new Drinking Water Directive (2020/2184/EC), the Nitrates Directive (91/676/EEC), the Marine Strategy Framework Directive (2008/56/EC), the Industrial Emissions Directive (2010/75/EU) and the new Regulation on minimum requirements for water reuse (2020/741).

[89] Detailed information can be found in the 5th Report from the Commission on the implementation of the Water Framework Directive and the Floods Directive, as well as in the 2019 EIR.

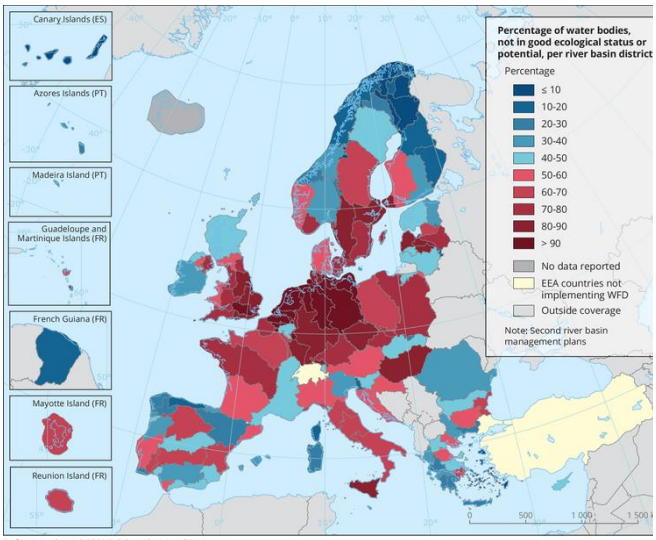
[90] See the 6th Implementation Report of the WFD and FD.

[91] European Commission, Directorate-General for Environment, Assessment of Member States' progress in Programmes of Measures during the second planning cycle of the Water Framework Directive. Member State: Cyprus, 2022.

[92] WISE Freshwater (europa.eu)

[93] River, lake, transitional, coastal, territorial.

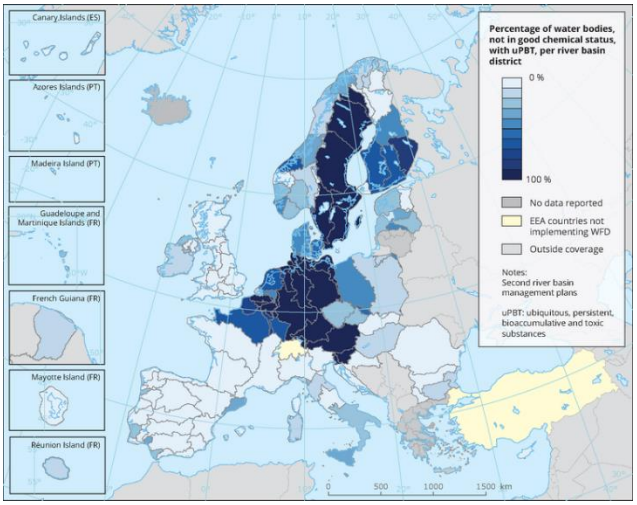
Figure 25: Proportion of surface water bodies (rivers, lakes, transitional and coastal waters) in less than good ecological status per river basin district[94]



Reference data: ©ESRI | ©EuroGeographics

The following figure shows the percentage of surface water bodies in Cyprus and other European countries failing to achieve good chemical status. For Cyprus, the percentage is 3.4%, if one includes water bodies failing due to substances behaving as ubiquitous PBTs (persistent, bio-accumulative, and toxic chemicals). Without uPBTs, the percentage of surface water bodies failing to achieve good chemical status remains the same.

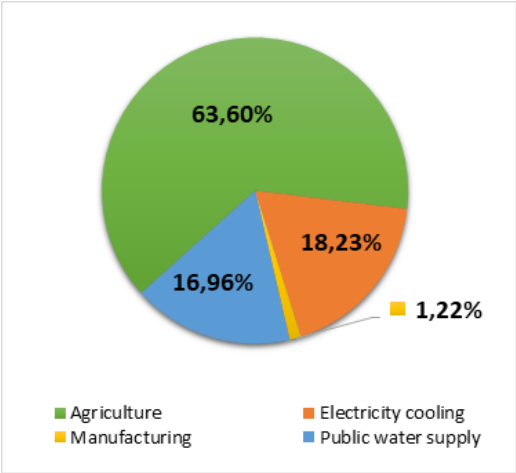
Figure 26: Percentage of surface water bodies not achieving good chemical status[95]



Under the IED framework, Cyprus had a significant increase over the last decade in industrial releases of heavy metals like Cd, Hg, Ni, Pb and a decrease (20.4%) in total organic carbon (TOC) to water[96].

Total water abstracted annually (corresponding to the 2019 baseline) from surface and groundwater sources in Cyprus is 267.90 hm^3 (EEA, 2022)[97]. The percentage per sector is 63.60% for agriculture, 16.96% for public water supply, 18.23% for electricity for cooling and 1.22% for manufacturing[98], (see Figure 27). Water abstraction is the main pressure in Cyprus. However, the measures for managing and controlling water abstraction appear less strict than point source and diffuse source pollution. Cyprus uses a register to control water abstractions. There is generally no fixed time period for reviewing abstraction permits or time restrictions of validity. Moreover, there is a concession, authorisation and/or permitting regime to control water impoundment and a register of impoundment.

Figure 27: Water abstraction per sector in Cyprus[99]



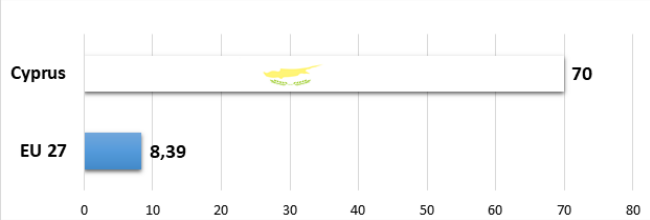
In Cyprus, the water exploitation index plus (WEI+)[100] is 70.637% (for 2017), above 40 %,

[94] European Environment Agency, 2021.
[95] European Environment Agency, December 2019.
[96] European Environment Agency, June 2021.
[97] This value was calculated by combining 2019 reporting data and filling in data gaps by using algorithms. If the share of the electricity cooling sector and manufacturing sector.is taken out of consideration - for which gap filling took place-, total water abstraction is 215.82 hm3. Cyprus pointed out that electricity cooling is served by seawater.
[98] The percentage for water electricity cooling and for manufacturing was calculated by using data gap filling (which corresponds to amount of 48.8 hm3 reported in year 2017 and 3.3 hm3 reported in year 2018, respectively).
[99] European Environment Agency, Water abstraction by source and economic sector in Europe, 2022.
[100] The Water Exploitation Index plus (WEI+) is a measure of total fresh water use as a percentage of the renewable fresh water resources (groundwater and surface water) at a given time and place. It quantifies

which is generally considered an indicator of severe water scarcity.

Cyprus is ranked first (from high to low score) in the EU on WEI+.

Figure 28: Water exploitation index plus (WEI+) inside EU, 2017[101]



The increasing demand for water for various purposes and the intensification of severe weather conditions due to climate change have put significant strain on freshwater supplies in Cyprus. Accordingly, its RRP[102] includes a set of interrelated reforms and investments to transform and modernise water resource management to ensure sustainability and to reinforce the operational capacity of competent authorities through improvement of cooperation and coordination between the various water management authorities, the adoption of smart technologies, the promotion of water reuse and the expansion of infrastructure for waste water treatment. The '2.3 Smart and Sustainable Water Management' component is one of the RRP's main contributions to Cyprus's green transition.

Floods Directive

As mentioned, the Commission published the 6th implementation report on the Floods Directive in December 2021, which included a review and update of the preliminary flood risk assessments during the second cycle (2016-2021).

The assessment report[103] showed that for the identification of 'areas of potential significant flood risk in the second cycle, the size of the catchment area was reduced from 10 km^2 to 5 km^2, in light of: (i) lessons learnt from floods that occurred in 2011-2018, notably the size of the drainage basins where these occurred; and (ii) the expected increase in intensity and frequency of extreme storms due to climate change. Cyprus still needs to develop the ability to record the impacts of floods and to estimate the consequences of future floods.

Cyprus has not adopted and reported the second generation of flood risk management plans (FRMPs) under the Floods Directive. The European Commission will assess the progress made since the first plans were adopted and publish a new report, as was done in 2019, taking also account of flood-related measures included in the RRP.

Drinking Water Directive

On the Drinking Water Directive[104], no new assessment of the quality of drinking water is available since the 2019 EIR. The quality of drinking water in Cyprus has not been highlighted as an area of concern.

The recast Directive[105] entered into force on 12 January 2021, and Member States have until 12 January 2023 to transpose it into their national legal system. Cyprus will have to comply with these reviewed quality standards.

Bathing Water Directive

On the Bathing Water Directive, Figure 30 shows that in 2020, all 112 of Cypriot bathing waters -100% - were of excellent quality[106]. Detailed information on the Cypriot bathing waters is available on the national portal[107] and in an interactive map developed by the European Environment Agency[108].

how much water is abstracted and how much water is returned after use to the environment.

[101] EEA, Water exploitation Index Plus, 2022.

[102] Cyprus' recovery and resilience plan | European Commission (europa.eu)

[103] European Commission, Directorate-General for Environment, Assessment of Second Cycle Preliminary Flood Risk Assessments and Identification of Areas of Potential Significant Flood Risk under the Floods Directive Member State: Cyprus, 2022

[104] OJ L 330, 5.12.1998, p. 32-54.

[105] OJ L 435, 23.12.2020, p. 1-62.

[106] European Environment Agency, 2021. State of bathing water — European Environment Agency (europa.eu)

[107] http://www.moa.gov.cy/moa/environment/environmentnew.nsf/All/9E7057F0FB6B8067C2257F6200327

[108] EEA, State of bathing waters in 2020 — European Environment Agency (europa.eu)

Figure 29: Bathing water quality in Europe in the 2020 season[109]

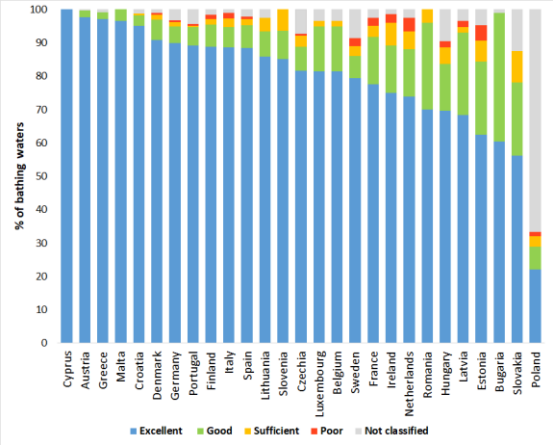
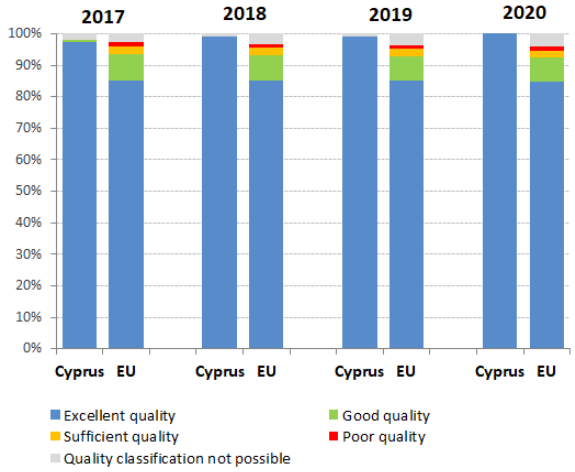


Figure 30: Cyprus, Bathing water quality, 2017-2020[110]



**For 2017, 2018 and 2019, data about the UK bathing waters are included under the EU average.*

Nitrates Directive

The Commission' latest implementation report on the Nitrates Directive[111] covering 2016-2019[112], warns that nitrates are still causing harmful pollution to water. Excessive nitrates in water are harmful to both human health and ecosystems, causing oxygen depletion and eutrophication. Where national authorities and farmers have cleaned up waters, it has had a positive impact on drinking water supply and biodiversity, as well as on sectors such as fisheries and tourism that depend on them. Nevertheless, excessive fertilisation remains a problem in many parts of the EU.

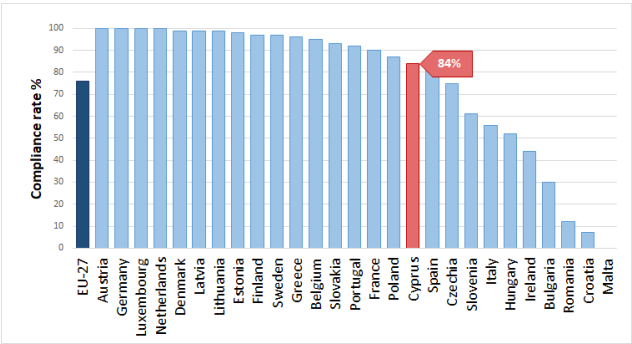
Cyprus has a high livestock density, and the nutrient surpluses for nitrogen and phosphorus are higher than the EU average. It has a well-developed network of monitoring stations. Groundwater quality is generally good, although there are a number of hotspots where nitrate concentration exceeds 50 mg/l or is increasing sharply. Surface waters, on the other hand, remain of good quality. A very high number of groundwater hotspots are located outside of nitrate vulnerable zones (NVZ). Cyprus has not reviewed its action programme since 2014[113]and has not provided a forecast of water quality.

Urban Waste Water Treatment Directive

Cyprus has, over the years, encountered difficulties in meeting its obligations under the Urban Waste Water Treatment Directive (UWWTD).

Overall, 84% of urban wastewater in Cyprus is treated according to the requirements of the UWWTD [114]. This is above the EU average of 76% in 2018. On the amount of urban wastewater that still needs to be collected or treated according to the UWWTD, further efforts are needed to provide collection (14.7%), biological treatment (15%) and biological treatment with nitrogen and/or phosphorus removal (14.8%). On the other hand, Cyprus reuses 95.4% of treated urban waste water for irrigation in agriculture and for other uses.

Figure 31: Proportion of urban waste water that meets all requirements of the UWWTD (collection, biological treatment, biological treatment with nitrogen and/or phosphorus removal) in compliant urban areas of the UWWTD ('compliance rate'), 2018[115]



[109] European Environment Agency, Bathing Water Quality in 2020, 2022.
[110] European Environment Agency, European Bathing Water Quality in 2017, 2018, 2019, 2020.
[111] Implementation of the Nitrates Directive in the EU.
[112] Last Implementation Report 2016-2019
[113] Cyprus is in the process of reviewing and updating the action programme and is expected to be completed by the end of 2022.
[114] Cyprus (europa.eu)
[115] European Commission, WISE Freshwater, 2021.

Despite the improvement in compliance over the years, for which the use of EU funding has been fundamental, in March 2020 Cyprus was condemned by the Court of Justice of the EU for the inadequate collection and treatment of the urban wastewaters generated in 31 agglomerations (29 instances are still unresolved).

The 2019 EIR for Cyprus included four priority actions on water management. Considering that progress has been limited, the following ones are suggested.

2022 priority actions

- New physical modifications of water bodies should be assessed in line with Article 4(7) of the WFD. In these assessments alternative options and adequate mitigation measures have to be considered.
- Efforts should be done to improve the coordinated implementation between water, marine and nature policies.
- Revise the designation of NVZ, to review its action programme in particular to reduce the high nutrients surpluses and to reduce and prevent the contamination in groundwater hotspots where agriculture pressure is significant.
- Complete implementation of the Urban Waste Water Treatment Directive for all agglomerations, by building up the necessary infrastructure.

Chemicals

The EU seeks to ensure that chemicals are produced and used in a way that minimise any significant adverse effects on human health and the environment. In October 2020, the Commission published its chemicals strategy for sustainability - Towards a Toxic-Free Environment [116] which led to some systemic changes in EU chemicals legislation. It is part of the EU zero pollution ambition, which is a key commitment of the European Green Deal.

The EU's chemicals legislation[117] provides baseline protection for human health and the environment. It also ensures stability and predictability for businesses operating within the internal market.

Since 2007, the Commission has gathered information on the enforcement of the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals ('the REACH Regulation') and the Regulation on Classification, Labelling and Packaging ('CLP Regulation'). In December 2020 the Commission assessed the Member States' reports on the implementation and enforcement of these Regulations[118], in line with Article 117(1) of the REACH Regulation and Article 46(2) of the CLP Regulation.According to the latest available data (2015-2019), national enforcement structures have not changed much in recent years. However, it is apparent from the latest report (2020) that there are still many disparities in the REACH-CLP implementation and notably in the area of the law enforcement. Recorded compliance levels in Member States seem to be quite stable over time, but with a slight worsening trend, which is likely due to: (i) enforcement authorities being more effective in detecting non-compliant products/companies; and (ii) more non-compliant products being put on the EU market.

In August 2021, the Commission published a quantitative assessment of the enforcement[119] of the two main EU Regulations on chemicals (the REACH Regulation and the CLP Regulation) using a set of indicators on different aspects of enforcement.

Responsibility for checking compliance with REACH lies with the Cyprus Department of Labour Inspection, which sets priorities for enforcement activities on an annual basis[120].

Cyprus has fully implemented both the REACH and CLP enforcement strategies[121].

The REACH strategy:

- combines enforcement and awareness-raising;
- prioritises checks at customs level, before the products are released for free circulation by customs;
- prioritises restrictions on imports (in collaboration with customs);
- includes awareness-raising campaigns;
- gives priority to REF projects;
- sets out future goals, such as expanding checks on articles containing substances of very high concern, and further developing the national reporting system for inspections and their follow-up.

The CLP strategy includes:

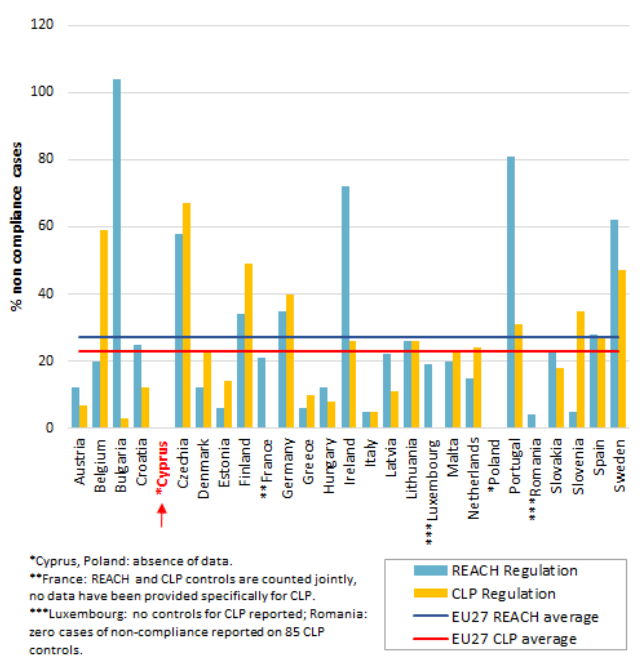
[116] COM(2020) 667 final
[117] REACH: OJ L 396, 30.12.2006, p.1. - CLP: OJ L 252, 31.12.2006, p.1
[118] Final report_REACH-CLP MS reporting_2020.pdf (europa.eu)
[119] European Commission, REACH and CLP enforcement: EU level enforcement indicators
[120] Final report_REACH-CLP MS reporting_2020.pdf (europa.eu), p. 68
[121] Final report_REACH-CLP MS reporting_2020.pdf (europa.eu), p. 76.

- inspections, market surveillance and investigations of importers, and collaboration with customs;
- awareness-raising campaigns and the publication of educational material;
- campaign on the control of the classification, labelling and packaging of soluble packaging for single-use laundry detergents.

As a rule, all infringements of REACH are classed as 'serious' or 'very serious' environmental administrative offences. If the infringement is sufficiently serious, the competent authority may decide to impose further penalties in addition to a fine. That authority may also, where necessary, order the provisional seizure of assets and documents.

In Cyprus 11 staff members are allocated to REACH and CLP enforcement[122]. A total of 553 REACH controls were carried out in the reporting period (2019)[123]. Most were proactive (inspections) rather than reactive/non-routine (i.e. investigations in response to complaints, accidents and referrals). No information has been provided on the number of cases of non-compliance.

Figure 32: Percentage of non-compliance cases out of the total number of REACH and CLP controls during 2019 per Member State and compared to the EU average[124]



2022 priority action

- Upgrade the implementation and enforcement administrative capacities towards a zero tolerance to non-compliances.

[122] European Commission, Final Report, on the operationof REACH and CLP, Final report_REACH-CLP MS reporting_2020.pdf (europa.eu), p. 75.

[123] Final report_REACH-CLP MS reporting_2020.pdf (europa.eu), p.87-88

[124] European Commission, Final Report, on the operation of REACH and CLP, pp.87-88, 2022.

4. Climate action

In line with the Paris Agreement and as part of the European Green Deal, the European Climate Law sets the EU target of reaching climate neutrality by 2050 and reducing greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990. The law also limits the contribution that carbon removals can make towards emission reductions in 2030, to ensure a sufficient mitigation effort.

The EU and its Member States submitted updated Nationally Determined Contribution (NDC) to the UNFCCC in December 2020.

The EU is working across all sectors and policies to cut GHG emissions and make the transition to a climate neutral and sustainable economy, as well as addressing the unavoidable consequences of climate change.

EU climate legislation incentivises emissions reductions from power generation, industry, transport, the maritime sector and fluorinated gases (F-gases) used in products.

For road transport, EU legislation requires the GHG intensity of vehicle fuels to be cut by 6% by 2020 compared to 2010[125] and sets binding GHG emission standards for different vehicle categories[126].

Under the F-gas Regulation, the EU's F-gas emissions will be cut by two thirds by 2030 compared with 2014 levels. From 2021, emissions and removals of GHG from Land Use, Land Use Change and Forestry (LULUCF) have been included in the EU emission reduction efforts.

The EU adaptation policy is an integral part of the European Green Deal. From 2021, Member States are required to report on their national adaptation policies[127] as the EU Climate Law recognises adaptation as a key component of the long-term global response to climate change. Member States will be required to adopt national strategies and the EU will regularly assess progress as part of its overall governance on climate action. The updated EU adaptation strategy, published in February 2021, sets out how the EU can adapt to the unavoidable impacts of climate change and become climate resilient by 2050.

Key national climate policies and strategies

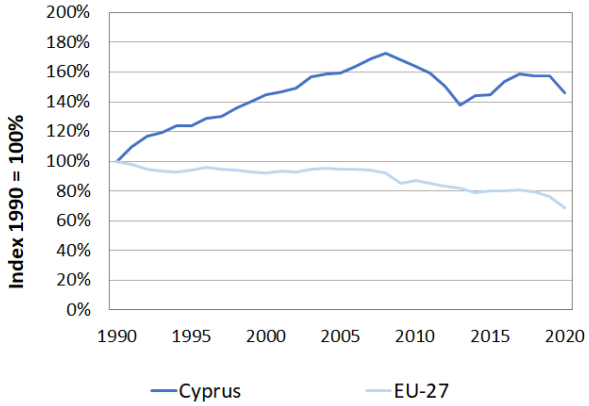
Cyprus has an integrated national energy and climate plan (NECP) for 2021-2030, which builds on other long-term energy and climate plans, including the long-term strategy for building renovation. The national objective is to reduce emissions by 2030, including by making use of the available flexibilities, and to become climate neutral by 2050 in line with the EU target.

Under its RRP, Cyprus allocates 41% of the budget to climate objectives and outlines crucial reforms and investments to further the transition to a more sustainable, low-carbon and climate-resilient economy. It covers a number of areas, including renewable energy and energy efficiency, urban transport and building renovation, as well as green tax reform and electricity market liberalisation.

Cyprus adopted national strategy for climate change adaptation and climate change adaptation plan in 2014. The strategy was updated in May 2017. For scenarios and projections, the strategy considers the future period 2021-2050. This has been chosen specifically and examined in detail for the needs of stakeholders and policymakers, in order to assist their planning to adaptation measures, impacts and vulnerability assessment.

In Cyprus, total greenhouse gas emissions have increased substantially compared to 1990, and both the greenhouse gas intensity and emissions per capita are above the EU average.

Figure 33: Total GHG emissions (incl. international aviation) in Cyprus, 1990-2020



[125] The Fuel Quality Directive (Directive 98/70/EC) sets strict quality requirements for fuels used in road transport in the EU to protect human health and the environment, and to make road travel across the EU safer.

[126] Regulation (EU) 2019/631

[127] Article 29 of Regulation (EU) 2018/1999.

Effort sharing target

For emissions not covered by the EU's emissions trading scheme (ETS), Member States have binding national targets under the Effort Sharing legislation [128] . Cyprus has a target to reduce GHG emissions in the non-ETS sectors (buildings, road and domestic maritime transport, agriculture, waste and small industries) by 5% by 2020 and 24% by 2030, compared to 2005 levels. The country's Effort Sharing emissions in 2019 were slightly above its 2020 target. In particular, road transport emissions have remained stable since 2005 and emissions in the commercial sector have increased. In its NECP, Cyprus intends to achieve reductions roughly in line with its current Effort Sharing target for 2030 of -24%.

Figure 34: Emissions and targets under the Effort Sharing Decision/ Effort Sharing Regulation in Cyprus, 2020 and 2030 as percentage change from 2005

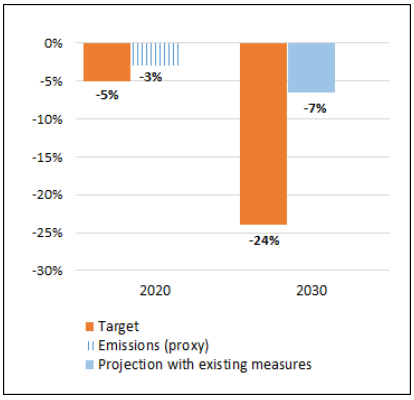
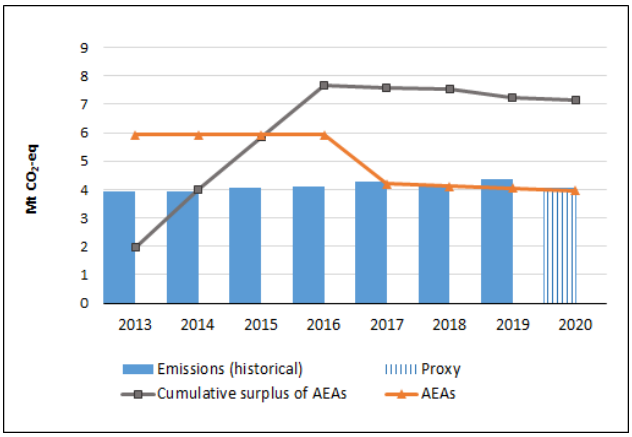


Figure 35: Emissions, annual emission allocations (AEAs) and accumulated surplus/ deficit of AEAs under the Effort Sharing Decision in Cyprus, 2013-2020



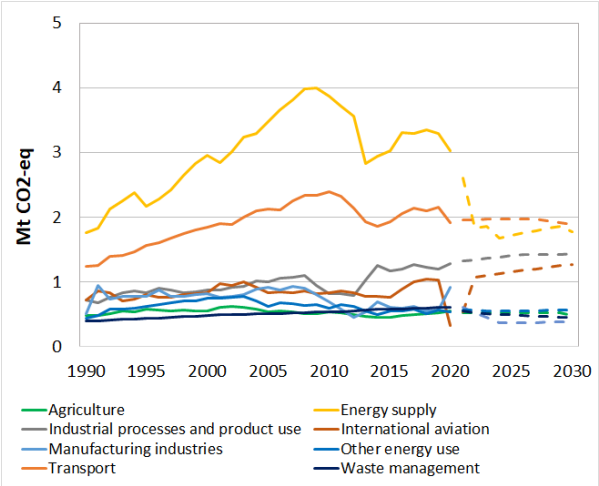
[128] Regulation (EU) 2018/842

Key sectoral developments

In road transport, the GHG intensity of vehicle fuels in Cyprus decreased by 1.3% between 2010 and 2019. The country needs to act swiftly to meet the reduction target of 6% by 2020. There are several types of action that Member States can take in this regard, for example: (i) further expanding the use of electricity in road transport; (ii) supporting the use of biofuels, in particular advanced biofuels; (III) incentivising the development and deployment of renewable fuels of non-biological origin; and (iv) reducing upstream emissions before refining processes.

In 2019, road transport in 2019 accounted for 21% of total GHG emissions in Cyprus.. The use of private cars is well above the EU average, while the use of public transport is extremely low (3% of total trips).

Figure 36: GHG by sector in Cyprus[129] – historical emissions 1990-2020, projections 2021-2030[130]



To reduce emissions from buildings, renovations are necessary. The building sector in Cyprus is highly energy inefficient, due to poor insulation and high heating and cooling costs. More than 90% of buildings in Cyprus were built before the introduction of mandatory energy performance requirements. In its long-term strategy for building renovation, the country intends to renovate close to 33 000 residential and 10 000 non-residential buildings by 2030.

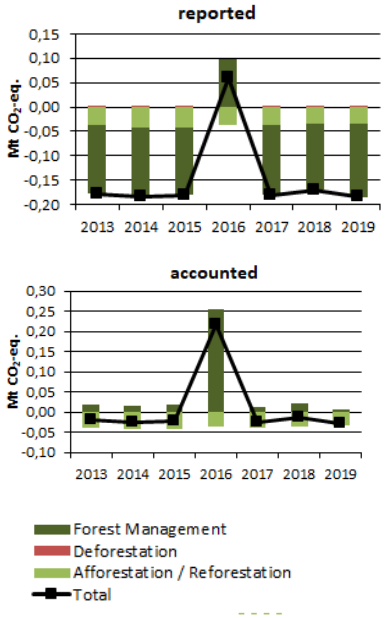
[129] The sectors in the figure correspond to the following IPCC sectors: Energy supply: 1A1, 1B and 1C. Energy use in manufacturing industries: 1A2. Industrial processes and product use: 2. Transport: 1A3. Other energy use: 1A4, 1A5 and 6. Agriculture: 3. Waste: 5. International aviation: 1.D.1.a.

[130] European Environmental Agency, Total GHG trends and projections.

Emissions from agriculture have remained at the same level since 2005. Measures to reduce them include improving water management, reducing natural resources intensity, optimising agricultural land use, reducing fertiliser use and improving animal waste management. Such measures are mentioned in the NECP for 2030.

In the LULUCF sector, Cyprus projects a further increase of net removals by 2030. Reported quantities under the Kyoto Protocol for the LULUCF sector in Cyprus show net removals of, on average, -0.15 Mt CO_2-eq for 2013-2019. In this regard, Cyprus contributes with 0.04% to the annual average sink of -344.9 Mt CO_2-eq of the EU-27. Accounting for the same period depicts net debits of, on average, 0.01 Mt CO_2-eq, which represents -0.01% of the EU-27 accounted sink of -115.0 Mt CO_2-eq. Reported net removals and accounted net credits are highly similar for all years except 2016, when reporting turns into net emissions and accounting into net debits. Cyprus is one of six EU Member States that show net emissions for at least one year. Cyprus is also one of six EU Member States with average net debits and one of 14 EU Member States with net debits for at least one year in this preliminary accounting exercise.

Figure 37: Reported and accounted emissions and removals from LULUCF[131]



Use of revenues from the auctioning of EU ETS allowances

Total revenues from the auctioning of emission allowances under the EU ETS over 2012-2021 came to nearly EUR 182 million. In Cyprus, the auctioning revenues go to a fund, which different ministries can use for climate and energy projects. This fund also receives money from the general budget, so, in practice, more than 100% of revenues is spent on climate and energy overall.

2022 priority actions

- Accelerate the roll-out of renewable energy. A much higher share of renewables would make the energy system not only more environmentally friendly, but also substantially cheaper.
- Further improve energy efficiency in buildings, especially focusing on heating and cooling.
- Enhance sustainable transport. Cyprus has the lowest number of charging points in the EU. A large number of battery electric vehicles connected to the grid would represent a powerful emission stabilisation instrument and can incentivise the uptake of electric public transport.
- Research and Innovation currently plays a relatively limited role in country's economic growth. Public funding dedicated to finance the investments in innovative green solutions, will have the expected results only if combined with other measures that support entrepreneurship in innovation and start-ups. The challenge is also to bring researchers and businesses closer to work together for producing innovative products and services in energy sector.

[131] The differences between reported and accounted emissions from LULUCF under the Kyoto Protocol are described in the '*explanatory note on LULUCF – accounted and reported quantities under the Kyoto Protocol*'.

Part II: Enabling framework: Implementation tools

5. Financing

Environmental investment needs in the EU

Financing environmental measures is essential for their success. Although most financing comes from national sources, various EU funds contribute significantly, helping to close the financing gap between countries.
Post-2020, environmental measures will also be supported by the EU's COVID-19 Recovery Fund (via the RRF) and the 'do no significant harm' (DNSH) principle which runs across the EU budget. The renewed commitments made at COP26 (Glasgow, Oct-Nov 2021) and the Biodiversity Convention (April-May 2022)[132] will also be reflected in the EU budget.

Overall environmental investment gaps (EU27)

The EU's investment needs for the green transition cover a range of interlinked areas. The additional investment needs over the baselines (i.e. the gap between what is needed and what is forecast to be invested if no additional action is taken) for climate, energy and transport were estimated in 2021 at EUR 390 billion per year (EU27)[133], with a further EUR 130 billion to deliver the EU's core environmental objectives[134]. Climate adaptation costs can also be significant, reaching a total of EUR 35-62 billion (narrower scope) or EUR 158-518 billion (wider scope) per year[135]. Those investment needs reflect the implementation objectives to 2020 and to 2030 (except for climate adaptation, the costs of which are expected to last over a longer time horizon).

A preliminary update of the EU's core environmental investment gap is provided in Table 1[136]. Almost 40% of the environmental investment needs relate to dealing with pollution, which accounts for nearly two thirds of the investment gap if combined with water management. The investment gap in circular economy and waste is estimated at between EUR 13-28 billion per year, depending on the levels of circularity implemented. The annual biodiversity financing gap is estimated at around EUR 20 billion.

Table 1: Estimated breakdown of the EU27's environmental investment gaps, by environmental objective, 2021-2030 (per year)[137]

Environmental objective	Estimated investment gap (EU-27, p.a.)	
	EUR billion	%
Pollution prevention & control	42.8	39%
Water management & industries	26.6	24%
Circular economy & waste	13.0	12%
Biodiversity & ecosystems[138]	21.5	20%
R & D & I and other	6.2	6%
Total	**110.1**	**100%**

Environmental investment needs in Cyprus

Completing the wastewater and waste management infrastructure is considered a top priority. This is followed by designating protected areas in compliance with the Nature Directives. The following environmental investment needs have been identified by sector.

Pollution prevention & control

The EU's first Clean Air Outlook[139] under the clean air programme estimated that the total air pollution control

[132] The Convention on Biological Diversity (cbd.int); Post-2020 Global Biodiversity Framework | IUCN
[133] SWD(2021)621, accompanying proposal COM(2021)557 to amend the REDII Directive (EU) 2018/2001.
[134] SWD(2020) 98 final/2.
[135] SWD(2018)292.
[136] With decreases due to Brexit and some reconciliation among the objectives. Source: DG ENV 'Study supporting EU green investment needs analysis' (ongoing, 2021-2023) and DG ENV internal analysis 'Environmental investment needs and financing in the EU's green transition' July 2020.

[137] European Commission, DG Environment, 'Study supporting EU green investment needs analysis' (ongoing, 2021-2023) and DG Environment internal analysis 'Environmental Investment needs and financing in the EU's green transition', July 2020.
[138] To meet the needs of the 2030 Biodiversity Strategy (Natura 2000, green infrastructure), at least EUR 20 billion a year should be unlocked for nature (COM/2020/380 final) while to fully cover the strategy (including restoration) EUR 30-35 billion may be needed, indicating a gap of EUR 10-20 billion a year compared to current baseline expenditure.
[139] International Institute for Applied Systems Analysis (IIASA), Progress towards the achievement of the EU's air quality and emissions objectives, 2018.

costs for Cyprus to reach the NECD emission reduction requirements (ERRs)[140] by 2030 amount to EUR 111 million per year, including, EUR 76 million for capital investment (assuming the achievement the 2030 climate and energy targets).

The second EU's Clean Air Outlook[141] suggests that the EU would largely achieve the reductions of air pollutant emissions that correspond to the obligations under the NEC Directive for 2030 if: (i) all relevant legislation adopted up to 2018 is implemented (including all air pollution targets and the 2030 climate and energy targets set in 2018); and (ii) Member States also implemented the measures announced in their national air pollution control programmes. The only exception is for ammonia (NH_3) for 15 Member States, including Cyprus.

Water management

According to the OECD study 'Financing Water Supply Sanitation and Flood Protection' (2020)[142], assuring freshwater supply in Cyprus continues to be a challenge, requiring investments in non-conventional water sources (water reuse, desalination). The major water management issue in Cyprus is over-abstraction of groundwater. For surface water, diffuse pollution is the main pressure. Up to 2030, the additional cumulative investment need for Cyprus was estimated at EUR 217 million euro (around EUR 22 million per year) over baselines, of which around 95% relates to wastewater[143]. Moreover, the recent 6th Water Framework Directive and Floods Directive implementation report[144] and the financial - economic study[145] accompanying it, are also a relevant source of information in this domain.

Waste & circular economy

According to a Commission study[146], to meet the recycling targets for municipal waste and packaging waste, Cyprus needs to invest an additional EUR 74 million (around EUR 10.6 million per year) in 2021-2027 on collection, recycling reprocessors, biowaste treatment, waste sorting facilities and digitalising waste registries.

This does not include the investment necessary for other key waste streams (plastics, textiles, furniture) or to unlock a higher uptake of circularity and waste prevention across the economy.

Biodiversity & ecosystems

The recently submitted priority action framework (PAF) for Cyprus shows that nature protection costs (including Natura 2000) in 2021-2027 amount to EUR 51.8 million. This represents an annual cost of about EUR 7.4 million, of which EUR 5.5 million are one-off costs[147]. This excludes additional costs to implement the biodiversity strategy to 2030, including on increased protection and restoration.

EU environmental funding 2014-2020

The multiannual financial framework (MFF) for 2014-2020 allocated almost EUR 960 billion (in commitments, 2011 prices)[148] for the EU to spend over this period. The commitment to the green transition included a 20% climate spending target. It also included funding opportunities for the environment, in particular, under the European Structural and Investment (ESI) Funds[149]. The 2014-2020 MFF budget was subsequently topped up with over EUR 50 billion (in current prices) from the REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe) programme for cohesion policy action against COVID-19[150].

Cyprus received EUR 1 093.0 million from the ESI Funds over 2014-2020 to invest in job creation and a sustainable and healthy European economy and environment. The planned direct environmental investment amounted to EUR 164.2 million with a further EUR 61.1 million identified as indirect environmental investment value, totalling EUR 225.3 million (see Figure 39, showing EU amounts, without national amounts).

[140] Covering the reductions of and the emission ceilings for 5 atmospheric pollutants, SOx, NOx, PM2.5, NH3 and VOC by 2030, compared to 2005. Source: Progress towards the achievement of the EU's air quality and emissions objectives, IIASA 2018. (page 29). Requirements are based on Directive (EU) 2016/2284.

[141] COM(2021) 3 Final and Report Annex.

[142] OECD, Financing Water Supply, Sanitation and Flood Protection: Challenges and Options, 2020.

[143] OECD, Cyprus- Country fact sheet- Financing Water Supply, Sanitation and Flood Protection.

[144] WFD and FD Implementation Reports – DG Environment – European Commission.

[145] European Commission, Directorate-General for Environment, Economic data related to the implementation of the WFD and the FD and the financing of measures, Final report. Publications Office, 2021.

[146] European Commission, Study on investment needs in the waste sector and on the financing of municipal waste management in Member States, 2019.

[147] The N2K Group, Strengthening investments in Natura 2000 and improving synergies with EU funding instruments report to the European Commission, 2021.

[148] Council Regulation (EU, Euratom) No 1311/2013.

[149] The European Structural and Investment (ESI) Funds include the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF) with the Youth Employment Initiative (YEI), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF).

[150] Regulation (EU) 2020/2221.

Figure 38: ESI Funds allocated to Cyprus, including environmental investments 2014-2020[151]

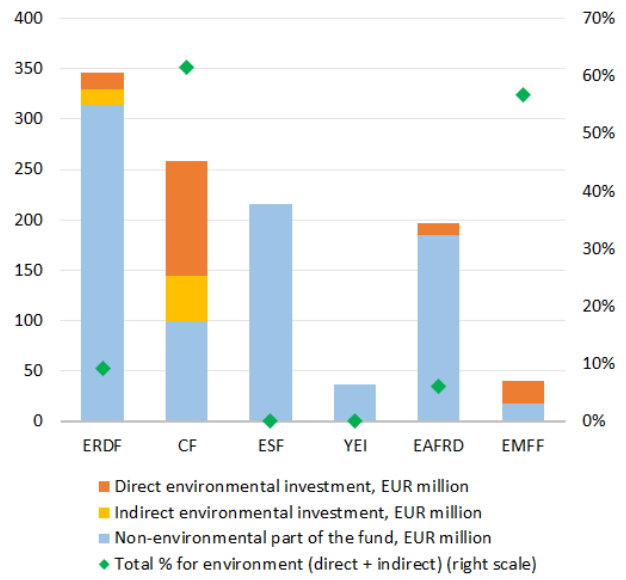


Table 2: Direct and indirect environmental investments under the ESI Funds in Cyprus, 2014-2020[152]

Instrument	Allocations for the environment (EUR million)
Under Cohesion policy (ERDF + CF)	**190.7**
Direct environmental investments	130.6
water	47.3
waste	66.5
biodiversity and nature	5.0
climate and risk management	11.8
Indirect environmental investments	60.1
energy efficiency	17.9
other energy[153]	0.4
sustainable transport	41.7
Under EAFRD/rural development	**12.0**
Direct environmental investments	11.1
water	7.4
climate and risk management	3.7
Indirect environmental investments	0.9
renewable energy	0.8
energy efficiency	0.1
Under EMFF	**22.5**
Direct environmental investments	22.4
environment protection & resource efficiency	22.4
Indirect environmental investments	0.1
business development, R&I	0.1
Under ESI Funds total	**225.3**
Direct environmental investments	164.2
Indirect environmental investments	61.1

Funding for the environment from the ESI Funds has also been supplemented by other EU funding programmes available to all Member States, such as the LIFE programme, Horizon 2020 or loans from the European Investment Bank (EIB). For Cyprus this adds up to an estimated EUR 328 million in 2014-2020

The LIFE programme[154] is dedicated to environmental and climate objectives, financing the demonstration and roll-out of green solutions. In 2014-2020, Cyprus received EU support for five LIFE projects (for nature and environment) for an amount of EUR 14.8 million (out of 1 028 EU27 LIFE projects with the total EU contribution of EUR 1.74 billion)[155].

In 2014-2020, Horizon 2020 allocated about EUR 8.4 million to Cyprus for the environment (notably for climate action, circular economy and raw materials) - about 2.6% of Cyprus's total allocation[156]. From the European Fund for Strategic Investments (EFSI), Cyprus received a total of EUR 145 million, with no projects having a direct environmental objective[157]. Environment-related loans to Cyprus from the EIB amounted to EUR 88 million (supporting water and waste), out of an overall EIB lending of EUR 1,716.3 million to Cyprus in that

[151] European Commission, DG Environment - Data analysis, DG Environment analysis based on ESI Funds Open Data Portal (cohesiondata.ec.europa.eu), Integration of environmental concerns in Cohesion Policy Funds (COWI, 2017), Regulation (EU) No 1303/2013, Regulation (EU) 2021/1060 and Implementing Regulation (EU) No 215/2014. Cut-off date for data: December 2021. Environmental investments here are captured via the combined use of intervention fields and coefficients under the Regulation (EU) No 1303/2013 and Regulation (EU) 2021/1060 allowing for a more precise identification and valuation of relevant environmental investments. N.B. Indirect environmental investments are valued using the Annex I environmental coefficients of the Regulation (EU) 2021/1060 (as opposed to full value).

[152] European Commission, DG Environment - Data analysis. The values of environmental investments identified here in the specific environmental areas may differ from the tracking values at cohesiondata.ec.europa.eu, e.g. for clean air or biodiversity due to two factors: the set of environmental coefficients used and the range of funds assessed. DG Environment's analysis here covered the full range of ESI Funds. See also previous footnote.

[153] Intelligent energy distribution systems (smart grids) and high efficiency co-generation and district heating, based on intervention field 53 and 54 respectively (with 40% environmental coefficients) of Regulation (EU) 2021/1060, Annex I.

[154] European Commission, LIFE Programme.

[155] LIFE Country overview Cyprus 2021 (europa.eu)

[156] Source: https://sc5.easme-web.eu/.

[157] Approved and signed EFSI financing - EIB, 2015-2020: Source: https://www.eib.org/en/products/mandates-partnerships/efsi/index.htm.

period[158]. The country ranks 22nd in the EU in terms of EIB lending.

In 2020, the EIB provided EUR 24.2 billion in funding across Europe to fight climate change, 37% of its total financing and EUR 1.8 billion (3% of its financing) for the environment[159] [160].

EU environmental funding 2021-2027

The 2020 European Green Deal investment plan calls for EUR 1 trillion in green investments (public and private) to be made across the EU by 2030. The 2021-2027 MFF and the NextGenerationEU will mobilise EUR 2.018 trillion (in current prices) to support the recovery from COVID-19 and the EU's long-term priorities, including environmental protection[161]. Following the EU Green Deal's[162] pledge to 'do no harm' and the Interinstitutional Agreement on the 2021-2027 MFF[163], 30% of the EU budget in 2021-2027 will support climate efforts, while biodiversity will receive 7.5% of the EU budget as of 2024 and 10% as of 2026. Reaching these targets will require increased financial resources for biodiversity, to be programmed specifically under the 2021-2027 cohesion policy and the 2023-2027 CAP.

Sustainable finance significantly increases transparency on environmental sustainability (a goal promoted by the EU Taxonomy)[164]. It also strengthens non-financial reporting requirements and facilitates the issuance of green bonds (by developing the EU green-bond standard)[165]. Reinforced by the renewed sustainable finance strategy (2020)[166], sustainable finance will increase investment flows to climate and the environment. The new strategy on adaptation to climate change[167] can help to close the insurance protection gap, which currently leaves many risks from climate-related events uninsured[168]. The EIB will align 50% of its lending for climate and environment objectives by 2025[169], with a EUR 250 billion contribution to the Green Deal investment plan by 2027.

Table 3: Key EU funds allocated to Cyprus (current prices), 2021-2027

Instrument	Country funding allocation (million EUR)
Cohesion policy ERDF CF ESF+ ETC (ERDF)	**Total: 904.9[170]** 466.9 178.3[171] 222.3 37.4[172]
Just Transition Fund	**101.1 [173]**
EAFRD/rural development under CAP Strategic Plans 2023-2027[174]	**118.9[175]**
European Maritime, Fisheries and Aquaculture Fund (EMFAF)	**EUR 38.3[176]**
Recovery and Resilience Facility (RRF) 2021 – 2026[177]	1 005.9 (grants) 200.3 (loans)[178]

In Cyprus, the programming for most EU funds (cohesion policy funds, EAFRD and EMFAF) is ongoing. However, the negotiations have been concluded under the RRF.

Cyprus' RRP sets out 75 investments and 58 reforms, which will be supported by EUR 1.006 billion in grants and EUR 0.2 billion in loans. 40.7% of the plan will support climate objectives (see Figure 40). This exceeds

[158] EIB loans in EU countries in 2014-2020. Source: EIB Open Data Portal: https://www.eib.org/en/infocentre/eib-open-data.htm

[159] The EIB Group jointly works with the European Commission in implementing several programmes that finance environmental implementation: InvestEU, the successor of EFSI, Pillar II and III of the Just Transition Mechanism. The EIB Group is a key implementing partner for InvestEU, managing 75% of the overall budgetary capacity of the mandate.

[160] EIB Activity Report 2021.

[161] European Commission, 2021-2027 long-term EU budget & NextGenerationEU.

[162] COM/2019/640 final.

[163] Interinstitutional Agreement, OJ L 433I.

[164] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

[165] EU Green Bond Standard - 2021/0191 (COD).

[166] COM (2021) 390 Final - European Commission, Strategy for Financing the Transition to a Sustainable Economy.

[167] COM(2021) 82 final.

[168] The strategy would support improved insurance gap coverage including through the natural catastrophe markets as reflected with the EIOPA (the Association for European Insurance and Occupational Pension Authorities) dashboard on insurance protection gap for natural catastrophes. See: The pilot dashboard on insurance protection gap for natural catastrophes | Eiopa (europa.eu).

[169] EIB Climate Bank Roadmap 2021-2025, November 2020

[170] European Commission, 2021-2027 Cohesion policy EU budget allocations.

[171] The transfer to the Connecting Europe Facility (Transport) is not included.

[172] Interreg initial allocations per MS including ETC transnational and ETC cross-border cooperation.

[173] European Commission, 2021-2027 Cohesion policy EU budget allocations.

[174] European Commission, CAP strategic plans.

[175] Regulation (EU) 2021/2115, Annex XI.

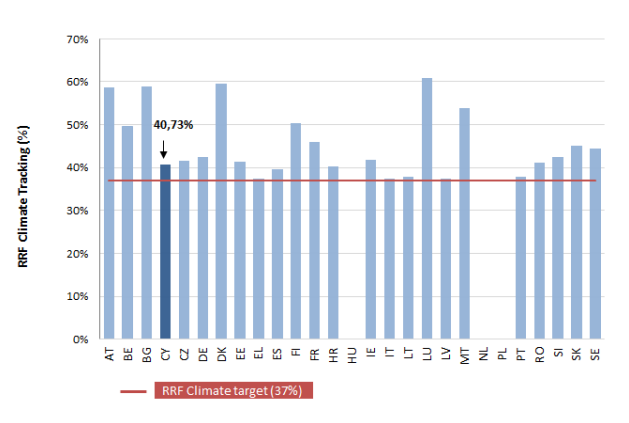
[176] Regulation (EU) 2021/1139, Annex V.

[177] The actual reforms and investments under the RRF have to be implemented until 31 December 2026.

[178] Council Implementing Decision, FIN 591.

the RRF's 37% climate target. On the green transition, the RRP reflects Cyprus' climate pledge by promoting energy efficiency and renewables and combating energy poverty through various support schemes (budget: EUR 89 million). It will also support investments that promote sustainable and green mobility, encourage a shift from private cars to public transport and promote the use of electric vehicles (budget: EUR 87 million). The RRP also includes several reforms that will introduce green taxation, transform the electricity market and facilitate the use of electric vehicles. The RRP will also provide a tangible contribution of EUR 100 million to building a cross-border electricity interconnector between Crete, Cyprus and Israel[179].

Figure 39: Climate expenditure in RRPs, 2021-2026[180]



Under NextGenerationEU, the Commission will issue up to EUR 250 billion in EU Green Bonds (one third of all bonds issued under NextGeneration EU) until 2026 that will comply with the general spirit of the 'do no significant harm' principle. However, this EUR 250 billion in green bonds will not be subject to the currently developed delegated acts related to the EU Taxonomy and will not fully align with the proposed EU standard for green bonds.

In addition to the EU funds earmarked for Cyprus for 2021-2027, various other EU funding programmes are open to all Member States, for example: the LIFE programme (EUR 5.4 billion); Horizon Europe (EUR 95.5 billion)[181], the Connecting Europe Facility (EUR 33.7 billion)[182] and InvestEU[183]. These instruments will also support the green transition, including research and innovation activities for environmental protection (Horizon Europe)[184], clean transport and energy (the Connecting Europe Facility)[185] and sustainable infrastructure (InvestEU)[186].

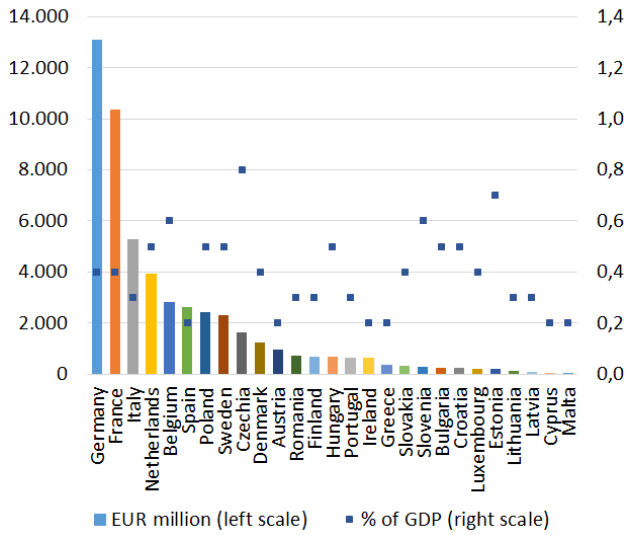
National environmental protection expenditure

Total expenditure on environmental protection (including all relevant current and capital expenditure)[187] in the EU-27 was EUR 272.6 billion in 2020, representing 2% of EU-27 GDP. This percentage has remained quite stable over time. Although the largest absolute amounts of expenditure are concentrated in a few countries, most countries spend between 1-2% of their GDP on environmental protection, including Cyprus (1.4%).

Of this spending, the EU-27's capital expenditure (Capex) on environmental protection (i.e. investment) amounted to EUR 56.3 billion in 2018, falling to EUR 54.5 billion in 2020, representing around 0.4% of EU-27 GDP. Cyprus invested 0.2% of GDP on environmental protection, in line with most other Member States (0.2-0.5% of GDP). In 2014-2020, this amounted to around EUR 389 million in environmental investment in Cyprus (EU-27 total: EUR 376 billion).

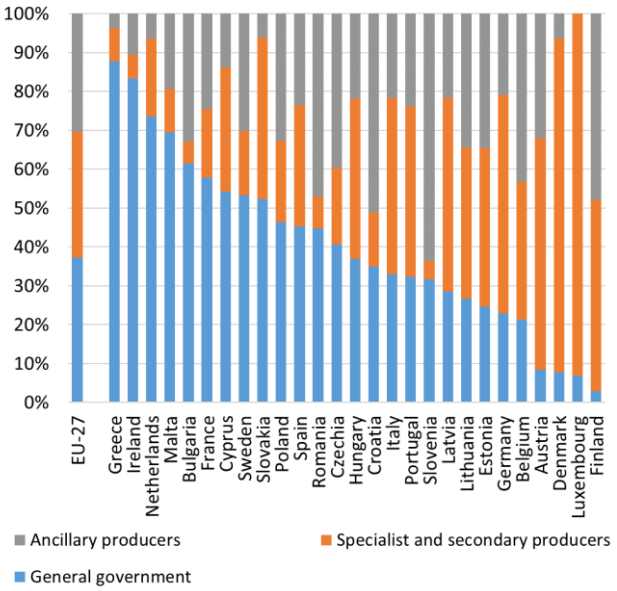
[179] European Commission, Cyprus recovery and resilience plan.
[180] European Commission. The contributions to climate objectives have been calculated using Annex VI of the RRF Regulation (EU) 2021/241.
[181] European Commission, Multiannual Financial Framework 2021-2027 (in commitments) - Current prices.
[182] Regulation (EU) 2021/1153.
[183] The InvestEU Fund is expected to mobilise over EUR 372 billion of investment through an EU budget guarantee of EUR 26.2 billion to back the investment of financial partners such as the European Investment Bank (EIB) Group and others.
[184] European Commission, Horizon Europe.
[185] European Commission, Connecting Europe Facility.
[186] European Union, InvestEU
[187] At economy level, including final consumption, intermediate consumption and capital expenditure of households, corporations and governments related to environmental protection goods and services. It excludes EU funds, while may include some international expenditure beyond domestic. Data source: Environmental Protection Expenditure Accounts (EPEA), Eurostat. EPEA accounts are based on the CEPA 2000 classification, excluding climate, energy and circular economy.

Figure 40: Direct and indirect environmental protection investments in the EU-27 (EUR million and % of GDP)[188] 2018



By institutional sector, around 54% of Cyprus' environmental protection investments (capital expenditure) came from the general government, further almost a third from specialist producers (of environmental protection services, e.g. waste and water companies) and 14% from industry (or business) sectors whose environmental activities are usually ancillary to their core business. At EU level, 37% comes from governments, 33% from specialist producers and 30% from industry (business).

Figure 41: Environmental protection investments (Capex) in EU-27 by institutional sector (Total economy = 100%), 2018[189]



A breakdown of investment by environmental topic is only available at institutional-sector level (rather than at economy level), due to different reporting patterns[190]. At general government level in Cyprus, 46% of environmental protection investments were for wastewater, 20% for tackling pollution, 10% for waste management and 10% for biodiversity. The country's specialist producers focused on wastewater (88%), whereas waste management received 12%. The business sector's environmental investments were mainly for air protection (73%), followed by wastewater and waste management.

European green bond issuance[191] amounted to USD 156 billion (EUR 137 billion[192]) in 2020, up from USD 117 billion (EUR 105 billion) in 2019 (these figures include some non-EU countries). For EU-27, the 2020 green bond issuance came to EUR 124 billion. In 2014-2020, 83% of the green bonds issued by European countries went towards energy, buildings or transport objectives, 8% supported water and waste, and 6% supported land use (with links ecosystem conservation & restoration as Climate Bonds Taxonomy is broadly similar to the EU

[188] Eurostat, Environmental Protection Expenditure Account, 2021.

[189] Eurostat, Environmental Protection Expenditure Accounts (env_epe).

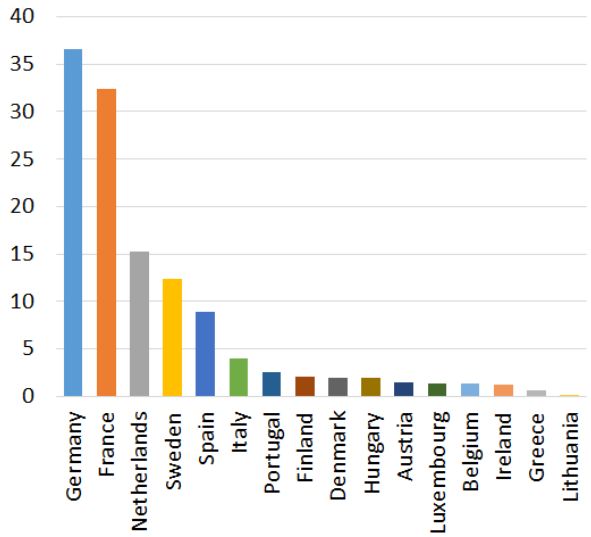
[190] Data reporting is different for the 3 institutional sectors, leading to aggregation difficulties. Specialist companies provide comprehensive data across all environmental areas (CEPA 1-9), while this is less the case for general government and industry that often report (the non-obligatory) data in merged categories only (with difficulty to split) or not at all.

[191] Green bonds were created to fund projects that have positive environmental and/or climate benefits. The majority of green bonds issued are green 'use of proceeds' or asset-linked bonds. The very first green bond was issued in 2007 with the AAA-rated issuance from multilateral institutions, the European Investment Bank (EIB) and the World Bank.

[192] At Eurostat's annual average EUR/USD exchange rates.

Taxonomy[193]. Of the 2020 EU Green Bond issuance, Cyprus received nothing.

Figure 42: Annual EU green bond issuance in 2020 (EUR billion)[194]

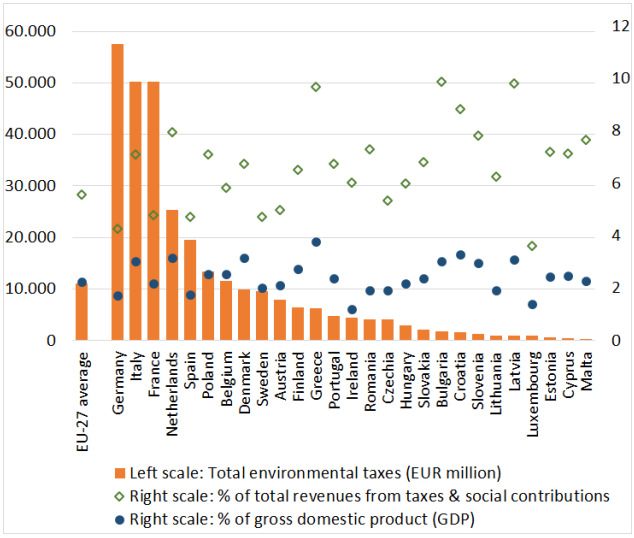


Green budget tools

Green taxation & environmental tax reform

Cyprus' revenue from environmental taxes amounted to EUR 533.6 million in 2020, accounting for 2.48% of GDP (slightly above the EU average of 2.24%), as shown in Figure 43. Of this amount, energy taxation accounted for the highest share (77.5% compared with 21.3% for transport and 1.2% for pollution/resources tax accounts).

Figure 43: Environmental taxes in the EU-27, 2020[195]



The 2019 European Green Deal underlines that well-designed tax reforms can boost economic growth and resilience, foster a fairer society and a just transition. Tax reforms can contribute to this by sending the right price signals and incentives to economic actors. The Green Deal creates the context for broad-based tax reforms, the removal of fossil fuel subsidies, and a shift in the tax burden from labour to pollution. It achieves this while simultaneously taking account of social considerations[196]. The Green Deal promotes the 'polluter pays principle' (PPP)[197], which stipulates that polluters should bear the cost of measures to prevent, control and remedy pollution. This principle is facilitated by the Commission's Technical Support Instrument (TSI) project on greening taxes.

In 2018, Cyprus introduced a Plastic Bag Levy to align with the European Plastic Bags Directive[198]. This initiative has been very successful, resulting in an 80% reduction in the use of plastic bags in supermarkets in only one year. According to a Commission's study on Green taxation and other economic instruments (2021) Cyprus could introduce a landfill tax, a 'pay-as-you-throw' scheme and a water consumption charge to further address particular areas of environmental concern[199].

[193] Interactive Data Platform at www.climatebonds.net. Further information on Climate Bonds Taxonomy: https://www.climatebonds.net/standard/taxonomy

[194] Climate Bonds Initiative, 2022.

[195] Eurostat, Environmental taxes accounts (env_eta).

[196] COM (2019/640 final), p.17.

[197] Article 191(2) of the Treaty on the Functioning of the European Union: 'Union policy on the environment (…) shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay'.

[198] European Commission, Ensuring that polluters pay Cyprus.

[199] European Commission, Green taxation and other economic instruments, 2021.

Current green budgeting practices

Green budgeting encompasses various climate and environmental tagging and tracking practices in budgets. Some EU Member States already use certain green budgeting practices[200]. Green budgeting helps identify and track green expenditure and green revenues to increase transparency on the environmental implications of budgetary policies. This is aimed at improving policy coherence and supporting green policies (including climate end environmental objectives)[201].

The Commission developed EU climate-proofing and sustainability-proofing guidance to assess project eligibility and compliance with environmental legislation and criteria[202]. The Commission has also drawn up a green budgeting reference framework[203] and launched a TSI project on green budgeting in 2021 to help Member States develop national green budgeting frameworks to improve policy coherence and the green transition. Cyprus participates in the Commission's green budgeting project, launched in 2021.

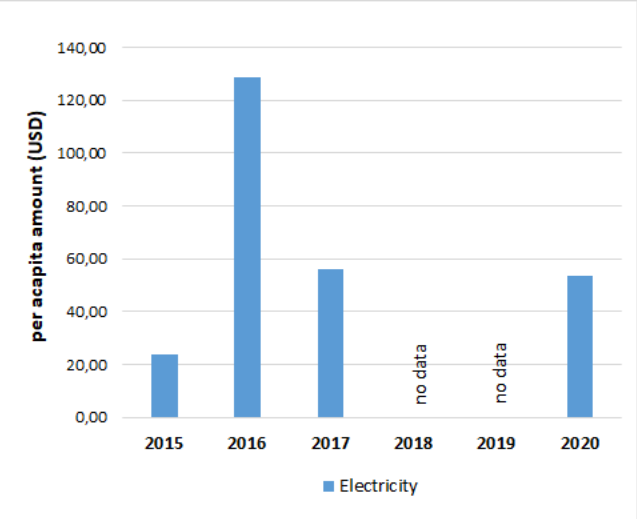
Environmentally-harmful subsidies

Addressing and removing environmentally-harmful subsidies is a further step towards wider fiscal reforms[204].

Fossil fuel subsidies are costly for public budgets and undermine Green Deal objectives. They also often deincentivise investment in green technologies and do not contribute to levelling the playing field. Fossil fuel subsidies have varied by around EUR 55 billion in the EU since 2015. They rose by 4% in 2015-2019, although some countries (e.g. Latvia, Lithuania Sweden, Greece and Ireland), managed to decrease them. At EU level, subsidies on petroleum products, in sectors such as transport and agriculture, continued to increase in 2015-2019, whereas subsidies on coal and lignite decreased, largely owing to the diminishing role of solid fuels in electricity generation. As a share of GDP, fossil fuel subsidies ranged from 1.2% in Hungary to less than 0.1% in Malta in 2019 (EU average: 0.4%). Cyprus allocates more than the EU average to fossil-fuel subsidies (0.7% of its GDP) - and more than it allocates to renewable-energy subsidies[205].

In 2020, the EU27's total fossil fuel subsidies decreased to EUR 52 billion (due to falling consumption trends amid the COVID-19-related restrictions). Without Member State actions, are likely to rebound as economic activity picks up from 2020[206].

Figure 44: Trends in electricity subsidies in Cyprus[207]



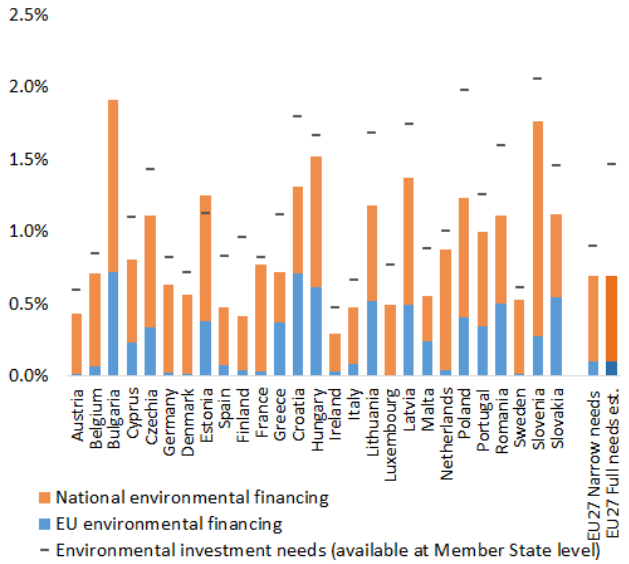
% GDP	2015	2016	2017	2018	2019	2020
Electricity	0,14	0,72	0,29	No data	No data	0,27

Overall financing compared to the needs

EU's overall environmental financing for environmental investments is estimated to have been 0.6-0.7% of GDP in 2014-2020, comprising both major EU funds and national financing. This ranged from 0.3% (Ireland) to 1.91% (Bulgaria), depending on the level of environmental challenges in different Member States. In 2021-2027, it is estimated that the EU's environmental investment needs will range between 0.9 and 1.5% of projected GDP, suggesting a potential environmental financing gap of 0.6-0.8% of GDP, previous financing levels assumed[208].

[200] European Commission, Green Budgeting Practices in the EU: A First Review, 2021.
[201] European Commission, European Commission Green Budgeting Reference Framework. European Commission, Green Budgeting in the EU Key insights from the 2021 Commission survey.
[202] European Commission, Technical guidance on sustainability proofing for the InvestEU Fund.
[203] European Commission, Green Budgeting Reference Framework, based on the review of the OECD Paris Collaborative on Green Budgeting initiative, 2017.
[204] European Commission, Study on assessing the environmental fiscal reform potential for the EU 28, 2016.
[205] European Court of Auditors, Energy taxation, carbon pricing and energy subsidies, 2022.
[206] State of the Energy Union report, COM(2021) 950 and Annex
[207] OECD, Fossil Fuel Subsidy Tracker.
[208] Source: DG Environment data analysis. EU financing sources covered: ESI Funds (ERDF, CF, ESF, YEI, EAFRD, EMFF), Horizon 2020, LIFE, EFSI (EU amount), EIB loans. National financing: total national environmental protection capital expenditure (investments) - source: Eurostat EPEA dataset. Cut-off date for data: end 2021. N.B. The total financing may be higher, in particular through further indirect investments, requiring further analysis in the future.

Figure 45: Total environmental financing baseline (2014-2020) and estimated needs (2020-2030) in the EU27 (% of GDP)[209]



Cyprus' environmental financing for investments came to around 0.81% of GDP in 2014-2020, relying mostly on national financing. In 2021-2027, the country's environmental investment needs are estimated to reach over 1.1% of Cyprus' GDP (based on information broken down by country), suggesting an environmental financing gap of at least 0.29% of GDP. This is likely to be higher when also accounting for needs estimated at EU-level (e.g. water protection, circularity, biodiversity strategy, etc.) to be addressed by mobilising further resources to back the country's environmental implementation priorities.

In the 2019 EIR, Cyprus received priority actions for environmental financing. However, there is room for improvement in the next years.

2022 priority actions

- Prepare an environmental financing strategy to maximise opportunities for closing environmental implementation gaps, bringing together all relevant administrative levels, and potentially involve more private financing (currently providing around one quarter of the total).
- Close investment gaps in order to ensure an increased level of financing for the environment and cover investment needs for all environmental objectives.

[209] Eurostat, ESI Funds Open Data, 2021.

6. Environmental governance

Information, public participation and access to justice

Citizens can more effectively protect the environment if they can rely on the three 'pillars' of the Aarhus Convention:
(i) access to information;
(ii) public participation in decision making;
(iii) access to justice in environmental matters.

It is of crucial importance to public authorities, the public and businesses that environmental information is shared efficiently and effectively[210]. Public participation allows authorities to make decisions that take public concerns into account. Access to justice is a set of guarantees that allows citizens and NGOs to use national courts to protect the environment[211]. It includes the right to bring legal challenges ('legal standing')[212].

Environmental information

Cyprus' implementation of the INSPIRE Directive is poor. Its performance has been reviewed based on its 2021 country factsheet[213]. Data identification and documentation have made little progress, and implementation levels are bad. More efforts are needed to:

- make the data more widely accessible;
- improve the conditions for data reuse; and
- prioritise environmental datasets in implementation, especially those identified as high-value spatial datasets for implementing environmental legislation[214].

Table 4: Cyprus dashboard on the implementation of the INSPIRE Directive, 2016-2020[215]

	2016	2020
Effective coordination and data sharing		
Ensure effective coordination	🟨	🟨
Data sharing without obstacle	🟨	🟨
INSPIRE performance indicators		
i. Conformity of metadata	🟩	🟥
ii. Conformity of spatial data sets[216]	🟥	🟥
iii. Accessibility of spatial data sets through view and download services	🟥	🟨
iv. Conformity of network services	🟥	🟥

Legend

🟩 Implementation is well advanced or (nearly) completed. Outstanding issues are minor and can be addressed easily. Percentage: >89%

🟨 Implementation has started and some or substantial progress has been made, but is still not close to being complete. Percentage: 31-89%

🟥 Implementation is falling significantly behind. Serious efforts are needed to close the implementation gap. Percentage: <31%

Public participation

The development of the environmental impact assessment database, including environmental impact assessment reports and the opinions of the environmental authority, has been introduced to facilitate public engagement. The Environmental Impact Assessment (EIA) platform provides all relevant information on the evaluation process to inform the public concerned, facilitates a more active and efficient

[210] The Aarhus Convention, the Access to Environmental Information Directive (Directive 2003/4/EC) and the INSPIRE Directive, (Directive 2007/2/EC) together create a legal foundation for the sharing of environmental information between public authorities and with the public. This EIR focuses on the INSPIRE Directive's implementation.
[211] These guarantees are explained in the Commission Notice on access to justice in environmental matters, OJL 275, 18.8.2017 and a related Citizen's Guide.
[212] This EIR focuses on the means implemented by Member States to guarantee rights of access to justice, legal standing and to overcome other major barriers to bringing cases on nature and air pollution.
[213] https://inspire.ec.europa.eu/INSPIRE-in-your-Country/CY.
[214] European Commission, List of high value spatial data sets.

[215] **INSPIRE** knowledge base
[216] The deadlines for implementation of the spatial data interoperability were in 2016 still in the future: 23/11/2017 for Annex I data and 21/10/2020 for Annex II and III data. It must be also considered that this conformity indicator will in many cases never reach 100% conformity as majority of the countries provide as-is-data sets in addition to the INSPIRE harmonised data sets.

participation in decision-making processes, includes access to documents, online submissions, updates of the Environmental Impact Commission's agenda, the Opinions/Reasoned Findings of the environmental authority, as well as the projects that are currently under public consultation. This tool facilitates the timely participation of the public in the planning and decision-making process, allowing the environmental authority to take the views of the public into account before making decisions. However, there is still some information lacking, in particular on aggregated data on the level of participation in decision-making processes including authorisations linked to the EIA Directive (2011/92/EU) and the SEA Directive (2001/42/EC).

Access to justice

NGOs can have standing only under specific sectoral law (EIA, IPPC[217], ELD[218]), otherwise they must prove their rights/interests.

It can be difficult to challenge plans or programmes. An administrative review, if granted, will examine both the procedural and substantive legality of a decision/act/omission. A judicial review in the Administrative Court will, as in all cases, consider matters of procedural legality and competence of the offending executory organ, but also of substantive legality if the question refers to an error in law, a violation of the constitution, etc.

The Supreme Court of Cyprus has the power to review legislation or regulations either upon request by the President of the Republic before enactment by Parliament, or on the basis of a legal recourse by an individual whose rights are affected under Article I46 of the Constitution as a result of an administrative act/omission emanating from such legislation or regulations. This applies to all legislation/regulations, there are no specific provisions for the environment. It can be concluded that there is a system of regular supervision of regulatory legally binding acts, but it is largely inaccessible to members of the public and NGOs, who can only flag cases to bodies or officials that are entitled to initiate an extraordinary supervision procedure.

There is some information available on access to justice, maintained by the government. However, it is usually only available in the official language of the country and it needs to be searched for. Information on access to environmental justice is published on the website of the Department of Environment, with reference to the specific (and limited) legislation that grants legal rights to NGOs. There is no specific site where national rules on access to justice are available.

In 2019, Cyprus received priority actions on improving access to justice in terms of information, standing and costs. There has been limited progress on standing and information, but substantial progress on reducing prohibitive costs.

2022 priority actions

- Improve access to spatial data and services by making stronger linkages between the Federal INSPIRE website and regional portals, identify and document all spatial datasets required for the implementation of environmental law[219], and make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services required by the INSPIRE Directive.
- Improve individuals' access to courts by the public concerned when challenging administrative or regulatory decisions and omissions, including during the planning phase, in particular on water, nature and air quality issues.
- Publish regular information on the number of EIA and SEA processes and their outcomes, including information on the level of public participation and the extent to which public comments were taken into account in the final decisions.

Compliance assurance

Environmental compliance assurance covers all the work undertaken by public authorities to ensure that industries, farmers and others fulfil their obligations to protect water, air and nature, and manage waste [220].
It includes support measures provided by the authorities, such as:
(i) compliance promotion [221];
the inspections and other checks that they carry out, i.e.

[217] Directive 2008/1/EC concerning integrated pollution prevention and control (the IPPC Directive)
[218] Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage

[219] European Commission, INSPIRE.
[220] The concept is explained in detail in the Communication on "EU actions to improve environmental compliance and governance" COM(2018)10 and the related Commission Staff Working Document, SWD(2018)10.
[221] This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.

compliance monitoring[222];
(iii) the steps that they take to stop breaches, impose sanctions and require damage to be remedied, i.e. enforcement[223].
Citizen science and complaints enable authorities to focus their efforts better. Environmental liability[224] ensures that the polluter pays to remedy any damage.

Compliance promotion and monitoring

The Nature Directives are still not fully implemented in Cyprus, and publicly available information to advise duty holders on how to improve compliance does not exist. The Natura 2000 network does not adequately protect the existing habitat types and species in Cyprus. However, Cyprus is planning to cover most SCI inadequacies (for terrestrial habitats and species) by the end of 2021, via an update of information for existing SCIs and with the proposal of new SCIs. Although a wide range of informative tools are available on the relevant websites of the Ministry of Agriculture, Rural Development and Environment, practical advice for farmers and land users is not available.

Detailed information on water and soil pollution control, as well as on the Nitrates Directive is provided on the website of the Department of Environment. Along with information on the individual provisions, the website also has presentations how to comply with the Directive, the Nitrates action programme and the Code of Good Agriculture Practice[225].

The Department of Environment is responsible for carrying out regular and non-regular inspections to monitor the implementation of environmental legislation. A plan for these inspections is prepared at the beginning of each year. It includes targeted campaigns to monitor waste management in specific sectors. However, the last Plan available on the website dates back to 2014. Inspection reports are published after each inspection[226], and an annual inspection report is published at the end of each year to summarise the findings and provide statistics. Annual inspection reports for 2014-2018 are available online[227].

Complaint handling and citizen science

No relevant online tool to encourage reporting on environmental damages is available in Cyprus. A list of contacts for reporting environmental issues is provided on the website of the Office of the Commissioner for the Environment (Γραφείο Επιτρόπου Περιβάλοντος)[228], as well as on the website of the Department of Environment (Τμήμα Περιβάλλοντος)[229]. However, information on how to submit complaints is not available on either of these websites.

Cyprus has introduced several initiatives to encourage the public and NGOs to participate in the collection of citizen science information. For instance, a protocol for what to do when finding a turtle nest was created and published by the Department of Fisheries and Marine Research (Τμήμα Αλιείας και Θαλασσίων Ερευνών) as part of the EU LIFE EUROTURTLES project[230]. Additionally, a mobile app called CY-FIS that records fishing activities by professional and recreational fishermen among other activities aimed at managing fishery resources, was launched by the same department. Finally, seminars have been organised under the Interreg Balkan-Mediterranean 'RECONNECT' project[231] for volunteers who want to help protect selected marine protected areas.

Enforcement

Information on national published statistics and other systematic information on the prosecution of environmental crimes and their outcomes is not available in Cyprus. A recent amendment to the Waste Law (Law 185(I)/2011) introduced the obligation to publish fines and court decisions, but there is currently only one such decision available online.

[222] This EIR focuses on inspections of major industrial installations.
[223] This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[224] The Environmental Liability Directive, 2004/35, creates the framework.
[225] Department of Environment: Water and soil pollution control – Industrial emissions. Information available at: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/All/E96FB74C98E79D94C2257F620032931A?OpenDocument.
[226] Department of Environment: Inspections System. Information available at: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/All/0A953261E33F67F7C2257F6200280FCD?OpenDocument.
[227] Department of Environment: Inspections System – Annual Inspection Reports. Information available at: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/All/3F6336B21F7924D9C225807C0030ED22/$file/Sxedio_Perivallontikon_Epitheroiseon_2014.pdf.
[228] Office of the Commissioner for the Environment *(Γραφείο Επιτρόπου Περιβάλλοντος)*. Information available at: http://www.environmentalcommissioner.gov.cy/environmentalcommissioner/ec.nsf/wheretoturnto_gr/wheretoturnto_gr?opendocument.
[229] Contact details of the Department of Environment available at: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/contact_gr/contact_gr?OpenDocument.
[230] Information about the EU LIFE EUROTURTLES project is available at: http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/All/A81EC277BC1F4D2E42258156003AABFB.
[231] Information about the Balkan-Mediterranean Project 'RECONNECT' is available at: https://reconnect.hcmr.gr/citizen-science/.

There appear to be no formal coordination arrangements among the bodies responsible for enforcing environmental damage or environmental crimes. However, in the event of an inspection, the inspectors of the Department of Environment seek to cooperate with all other competent services, as well as the Cyprus police[232].

Environmental Liability Directive (ELD)

There appears to be no central database (or any database) recording ELD cases or other incidents of environmental damage. National measures to encourage the development of financial security instruments to enable operators to use financial guarantees to cover their ELD liabilities have not been adopted. A few insurance contracts covering liability for environmental damages are available on the market in Cyprus[233].

2022 priority actions

- Provide practical information to farmers and land managers on how to comply with the Nature Directives and the Nitrates Directive.
- Collect and disseminate information on the enforcement of environmental law, including on the prosecution of environmental damage crimes, on Environmental Liability Directive cases, and on formal cooperation arrangements among the public bodies responsible.
- Promote and improve formal or informal systems of cooperation between the different authorities dealing with environmental crimes.
- Introduce measures to encourage the development of financial security instruments to enable operators to use financial guarantees.
- Make information available to the public on the complaint handling system and procedure to facilitate public involvement on compliance issues.

Effectiveness of environmental administrations

Those involved in implementing environmental legislation at EU, national, regional and local levels need to have the knowledge, tools and capacity to ensure that the legislation and the governance of the enforcement process bring about the intended benefits.

Administrative capacity and quality

Cyprus' two main environmental administrations are the Ministry of Agriculture, Rural Development and Environment (especially the Department of Environment and the Water Development Department) and the Ministry of Labour, Welfare and Social Insurance. Both appear to use new digital- and online technologies, to interact with the public or bodies that wish to be involved. Both Ministries host user-friendly websites with effective signposting (visuals, and meaningful headings and subheadings) to help people find information easily. Furthermore, both Ministries' websites provide contact information and online forms if someone needs to contact them. However, according to EUPACK, Cyprus' performance on e-governance is lower than other EU countries.

So far, the Cypriot authorities have complied with the deadlines in EU environmental legislation and reacted quickly whenever the Commission has initiated an infringement procedure. A notable exception is the nature sector, where there have been delays, including in: (i) designating the special protected areas; (ii) proposing sites of Community interest; and (iii) bringing projects in line with EU legislation, especially by carrying out adequate 'appropriate assessments'.The number of infringement cases against Cyprus is moderate in absolute terms, although it is high per capita. In general, there are no significant problems on the quality of transposition of EU directives, although one case is currently open. Most cases relate either to a poor application of the EU environmental legislation or to late transposition. A new instance of incorrect transposition has very recently been found, i.e. the fact that Cyprus excludes from the obligation to inform and consult the public all hydrocarbon projects located within its Exclusive Economic Zone. The Commission is closely monitoring this issue so that the relevant national legislation is brought into line with EU law.

Coordination and integration

As mentioned in the 2017 EIR, the transposition of the revised Environmental Impact Assessment (EIA) Directive provides an opportunity for countries to streamline their regulatory framework on environmental assessments. Despite a delay in full transposition, Cyprus has transposed the revised Directive.

[232] Department of Environment: Inspections System. Information available at: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/page19_gr/page19_gr?OpenDocument.

[233] https://www.pitsasinsurances.com/el/article/-environmental-liability-insurance/; https://www.aig.com.cy/business/products/liability-insurance/environmental-impairment.

The Commission encourages the streamlining of environmental assessments to reduce duplication and avoid overlaps in environmental assessments for projects. Moreover, streamlining helps to reduce unnecessary administrative burdens and accelerates decision-making, provided it is done without compromising the quality of the environmental assessment procedure. Cyprus has started streamlining environmental assessments under the EIA and the Habitats Directives.

Reforms through the Commission's Technical Support Instrument (TSI)

The Commission supports environmental implementation and the green transition, not only through the EU financing programmes, but also granting technical assistance such as the TSI.

During the reporting period, the TSI supported several environment-related projects in Cyprus. For example under the 2019 TSI, the Commission supported a project to develop a long-term economic strategy, including sustainable development, and a project to revise the national strategy for the management of municipal Waste. Under the 2020 and 2021 TSI, four projects were supported to: (i) update Cyprus' energy and climate policies; (ii) support the implementation and mainstreaming of the Sustainable Development Goals; (iii) prepare the green taxation reform; and (iv) promote the sustainable urban mobility plans of Limassol and Larnaca. Finally, a 2022 TSI project will support the renovation wave.

TAIEX EIR peer-to-peer projects

The Commission launched the TAIEX EIR peer-to-peer tool[234] to facilitate peer-to-peer learning between environmental authorities.

During the reporting period, Cyprus has not been very active in seeking the support of the TSI for environmental reforms. However, in 2022 it has taken part in two multi-country workshops (on ammonia-reducing technology and measures, and on zero pollution) and in a workshop on best practices in applying Article 6(3) of the Habitats Directive.

[234] TAIEX - Environmental Implementation Review - PEER 2 PEER - Environment - European Commission (europa.eu)