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ENVIRONMENTAL ACCOUNTS
2014 - 2020

IN 2020, THE GVA AND EMPLOYMENT OF THE ENVIRONMENTAL GOODS AND SERVICES SECTOR GREW, DESPITE THE STRONG DECREASE IN THE TOTAL ECONOMY

In 2020, the environmental goods and services sector represented 3.9% of output, 2.8% of GVA, 4.4% of exports and 2.5% of employment in the Portuguese economy.

Despite the COVID-19 pandemic, this sector recorded increases in output (0.6%), GVA (1.9%) and employment (7.2%), contrary to what happened in the national economy (decreases of 7.5%, 5.8% and 2.2%, respectively). Exports decreased by 2.1% in 2020, for the second consecutive year.

In 2019, the last year with available information for the EU, Portugal occupied the twelfth position among the countries with the highest share of GVA of the environmental goods and services sector in national GVA and the fifth position among the countries with the highest share of exports in the national total.

This press release summarizes the main results of the Environmental goods and services sector accounts (EGSS) for 2020. The retrospective series from 2014 to 2019 underwent minor revisions, which are described in more detail at the end of this note, in the methodological notes section.

Additional tables are available on Statistics Portugal website, in the National Accounts dissemination area ([Satellite Accounts Accounts](#)).

In 2020, the output, GVA and employment of the environmental goods and services sector grew, contrary to what was observed in the total economy

Despite the pandemic situation, in 2020 the environmental goods and services sector saw increases in output (0.6%), Gross Value Added (1.9%) and employment (7.2%), contrary to what happened in the national economy. Exports decreased by 2.1% in 2020 (which compares with a reduction of 20.4% in the national economy). In fact, despite the reduction in the domain with the greatest relative importance (*management of energy resources*), the sector showed some resilience in other domains which were not much affected by the travel restrictions imposed by the pandemic (unlike tourism and related activities), attaining a growing demand due, among other factors, to environmental policies, namely those related to energy transition. Exports decreased by 2.1% in 2020 while total exports of the national economy decreased by 20.4%.

Between 2014 and 2020, the environmental goods and services sector was more dynamic than the total economy, with average annual growth in exports (4.8%), employment (4.0%), output (3.4%) and GVA (2.7%) above that observed in the national economy (+0.9%, +1.5%, +1.9% and +2.1%, respectively).



Table 1. Main results of the Environmental Goods and Services Sector Accounts

		2014	2015	2016	2017	2018	2019	2020	Rate of change (%) 19/20	Annual average (%) 14/20
Output										
Environmental Goods and Services	10 ⁶	10,923	11,151	11,848	12,411	13,209	13,731	13,811	0.6	3.4
Economy	euro	309,831	317,833	324,823	347,793	366,734	381,407	352,705	-7.5	1.9
Weight in the economy		3.5%	3.5%	3.6%	3.6%	3.6%	3.6%	3.9%		
GVA										
Environmental Goods and Services	10 ⁶	3,999	4,012	4,283	4,440	4,602	4,723	4,813	1.9	2.7
Economy	euro	151,136	156,517	161,993	169,642	177,466	185,536	174,768	-5.8	2.1
Weight in the economy		2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.8%		
Exports										
Environmental Goods and Services	10 ⁶	2,349	2,647	2,970	3,127	3,393	3,332	3,263	-2.1	4.8
Economy	euro	69,595	72,991	74,989	83,717	89,144	93,271	74,286	-20.4	0.9
Weight in the economy		3.4%	3.6%	4.0%	3.7%	3.8%	3.6%	4.4%		
Employment										
Environmental Goods and Services	FTE	88,489	93,525	98,570	103,654	106,929	108,835	116,719	7.2	4.0
Economy		4,246,752	4,327,565	4,426,856	4,579,158	4,720,439	4,807,467	4,701,371	-2.2	1.5
Weight in the economy		2.1%	2.2%	2.2%	2.3%	2.3%	2.3%	2.5%		

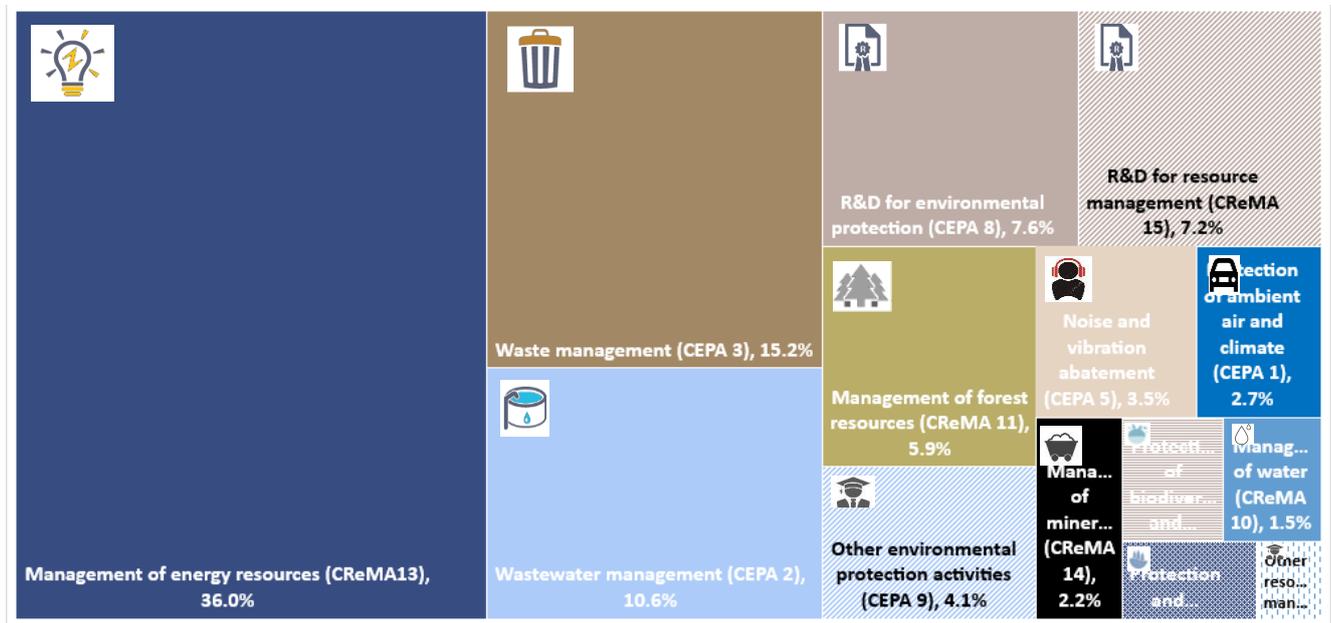
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2020, the management of energy resources remained the most relevant area, but GVA decreased by 1.8%

In 2020, as has been the case since the beginning of the series (2014), three environmental domains contributed to more than half of the sector's GVA, namely the *management of energy resources* (36.0%), *waste management* (15.2%) and *wastewater management* (10.6%).



Figure 1. GVA by environmental domain (2020)



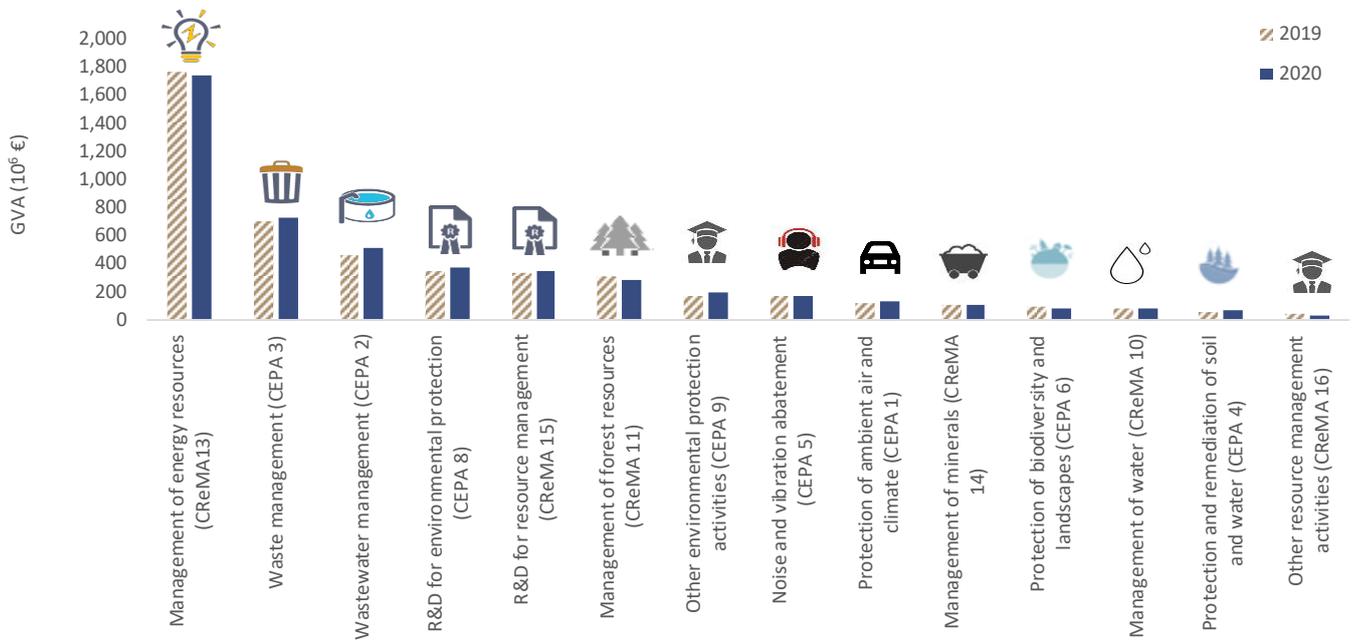
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2020, the GVA of most domains increased, standing out due to its relative weight *Waste management* (+4.7%) and *wastewater management* (+11.0%). The domains with lower relative weight maintained high growth, consolidating the upward trend observed in previous years. Examples are the *protection of ambient air and climate* (+5.7%), due to the boost in electric mobility, namely the production of electric bicycles and electric vehicle charging stations, and *noise and vibration abatement* (+1.9%) due to the production of silencers.

Note that, by its relative importance, the *management of energy resources* conditions the evolution of the environmental goods and services sector, having mitigated the growths registered in other domains. The reduction in GVA (-1.8%) is explained by the unfavourable wind and hydrological conditions in 2020 (which was a hot and dry year, like 2019), which affected production. Additionally, between 2019 and 2020 there was a decrease in energy prices, particularly in hydro energy.

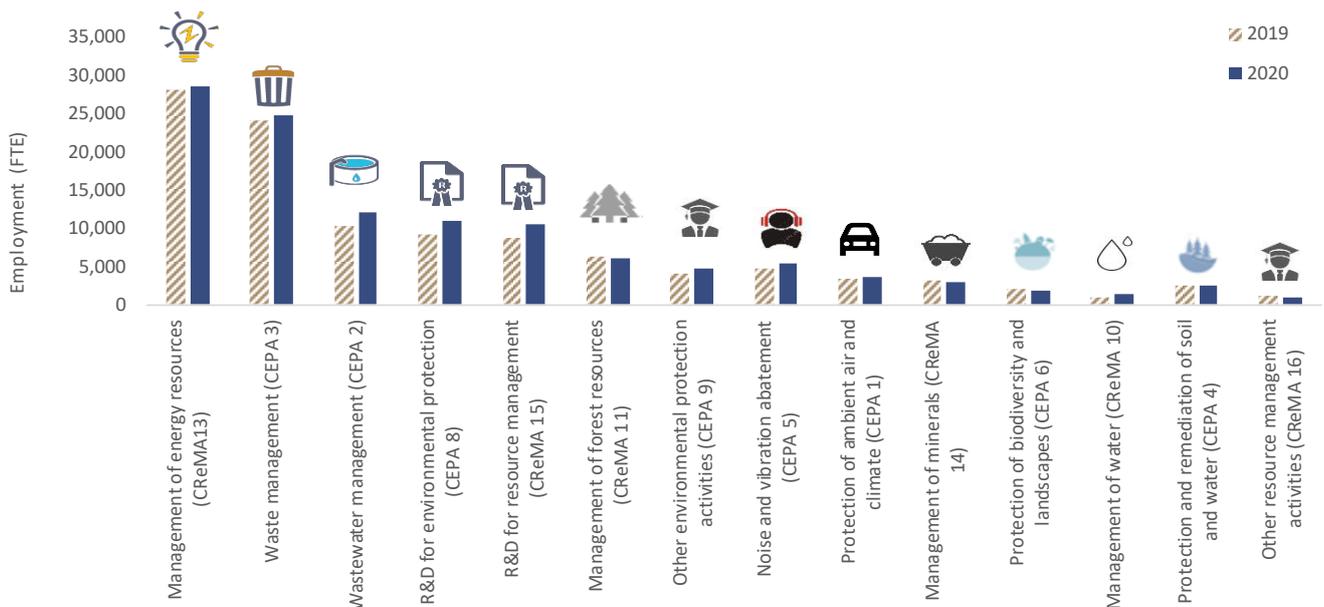


Figure 2. GVA by environmental domain (2019 - 2020)



Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

Figure 3. Employment by environmental domain (2019 - 2020)



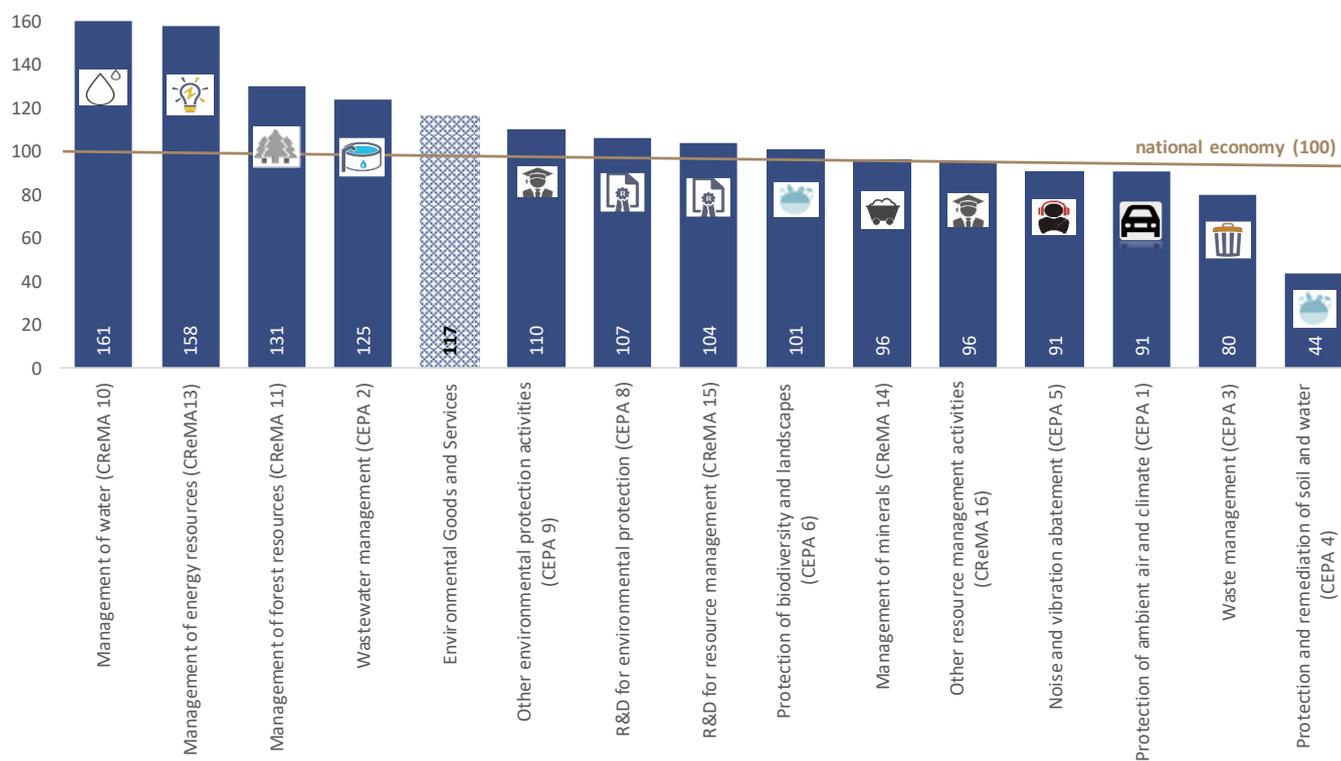
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)



By analysing the GVA generated per FTE (employment), it is possible to verify that the environmental goods and services sector presents a value 17% higher than that observed in the national economy. It should be noted, however, that several domains that make up the environmental goods and services sector are capital intensive, where the labour factor has a lower relevance than most other industries, thus presenting GVA per FTE values above those of the national economy. On average, in the period 2014-2020, *management of water* stands out as the domain with the highest ratio (61% above the national average). This is followed by the *management of energy resources* (+58% than the national average).

Figure 4. GVA/Employment by environmental domain (2014 - 2020)

(national economy=100)



Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

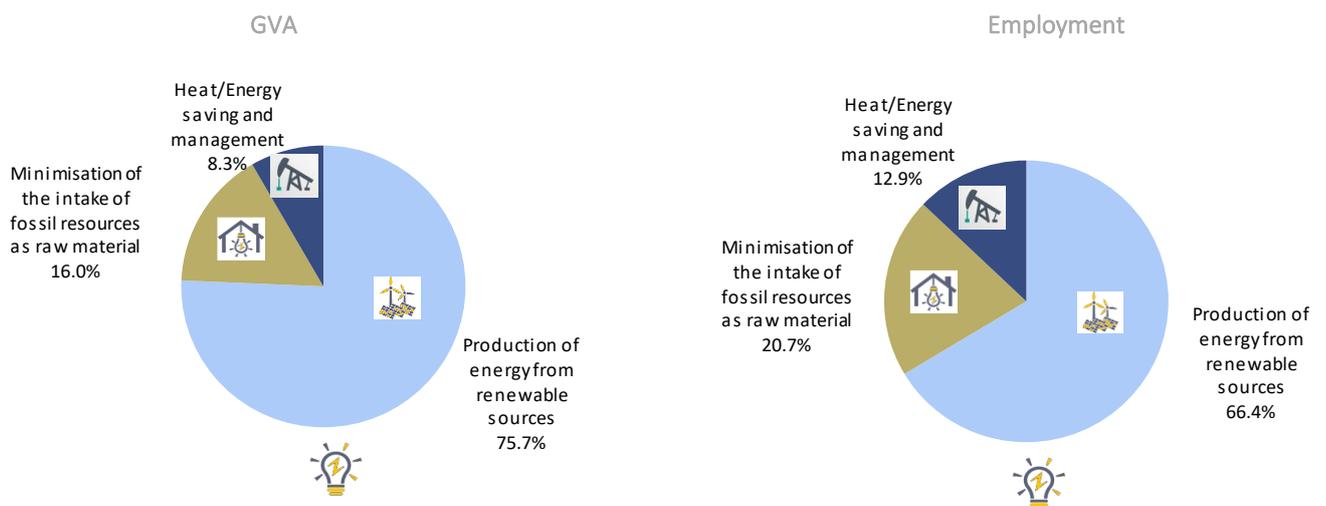


In the management of energy resources, the contribution of GVA and employment from the production of energy from renewable sources stand out

The *management of energy resources* domain comprises the classes of *production of energy from renewable sources*, *heat/energy saving and management* and *minimisation of the intake of fossil resources as raw material*.

The *production of energy from renewable sources*, including the production of its equipment, namely wind and solar, constitutes the most relevant component of the *management of energy resources* (75.7% of total GVA and 66.4% of employment on average, in the period 2014-2020). This class presents the highest GVA/Employment ratio (+80% than the national economy). It is followed by the *minimisation of the intake of fossil resources as raw material* (among them the replacement of plastic packaging by other products and the recycling of plastic packaging) and the *heat/energy saving and management*.

Figure 5. GVA and Employment of management of energy resources by environmental classes (2014 - 2020)



Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

Waste management is the second area with the highest contribution to employment and GVA and, contrary to the *management of energy resources*, it has one of the lowest GVA/Employment ratios (-20% of the national average), being more labour intensive.

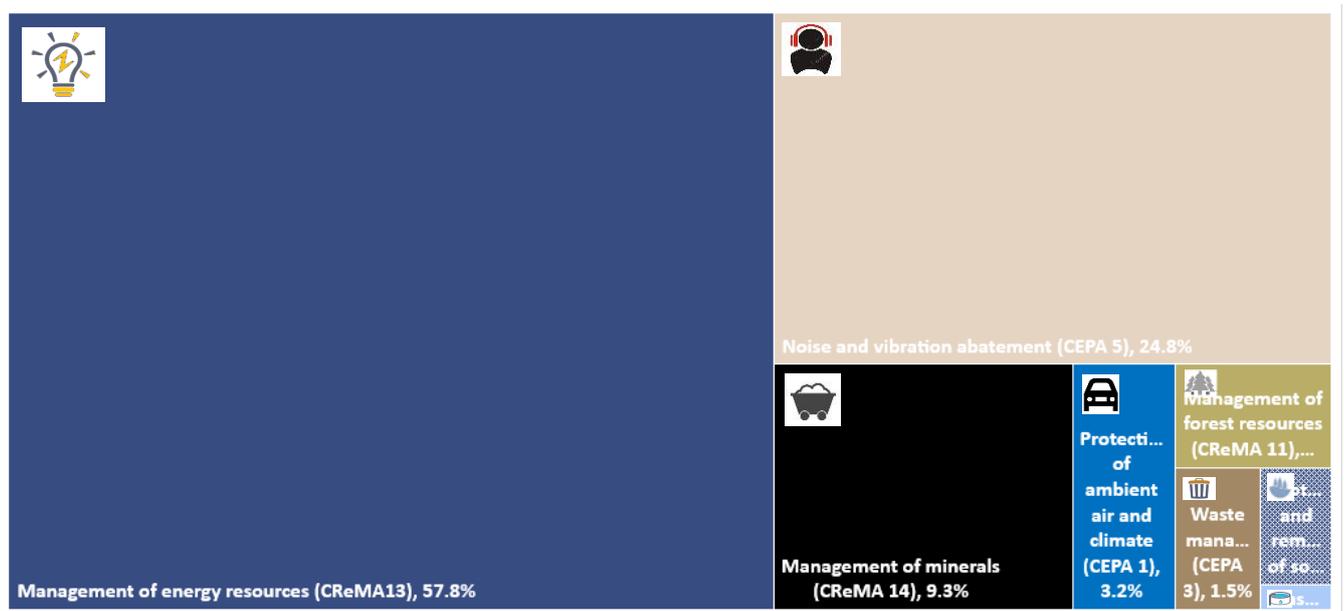


Exports fell by 2.1% in 2020, for the second consecutive year

Exports decreased by 2.1% in 2020, for the second consecutive year, while total exports of the national economy decreased by 20.4%. The decrease in exported electricity of renewable origin in the two previous years was one of the factors that contributed to the observed reduction. In 2020, 23.6% of the environmental goods and services output was destined for export (24.3% in 2019 and 25.7% in 2018).

The *management of energy resource* accounted for 57.8% of these exports, with wind power generation equipment (such as wind power generator sets and other components) standing out. *Noise and vibration abatement* followed, with a relative weight of 24.8%, mainly due to silencers for motor vehicles. In third place was the *management of minerals*, with 9.3% of exports, as a result of the increase in metallic and non-metallic mineral waste.

Figure 6. Exports of environmental goods and services by environmental domain (2020)



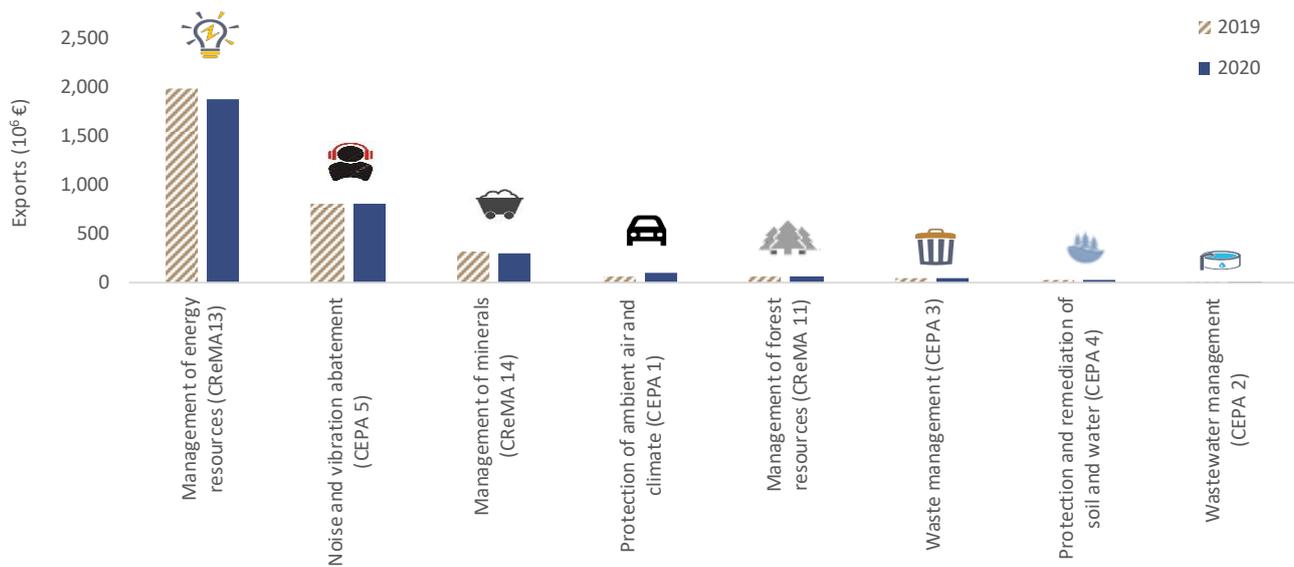
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

As observed in other economic variables, given its relative weight, the *management of energy resources* conditions the evolution of the sector, having mitigated the increases observed in other areas. In fact, the *management of energy resources* decreased by 5.4% in 2020. Exports of goods and services related to *noise and vibration abatement* increased 1.0% and *management of minerals* 3.1%.



It is also worth noting the continued strong growth recorded in the *protection of ambient air and climate* (49.2%) which has been accentuated since 2019, due to a significant increase in electric bicycles, although their weight in exports of environmental goods and services has been relatively small (3.2%).

Figure 7. Exports by environmental domain (2019 - 2020)



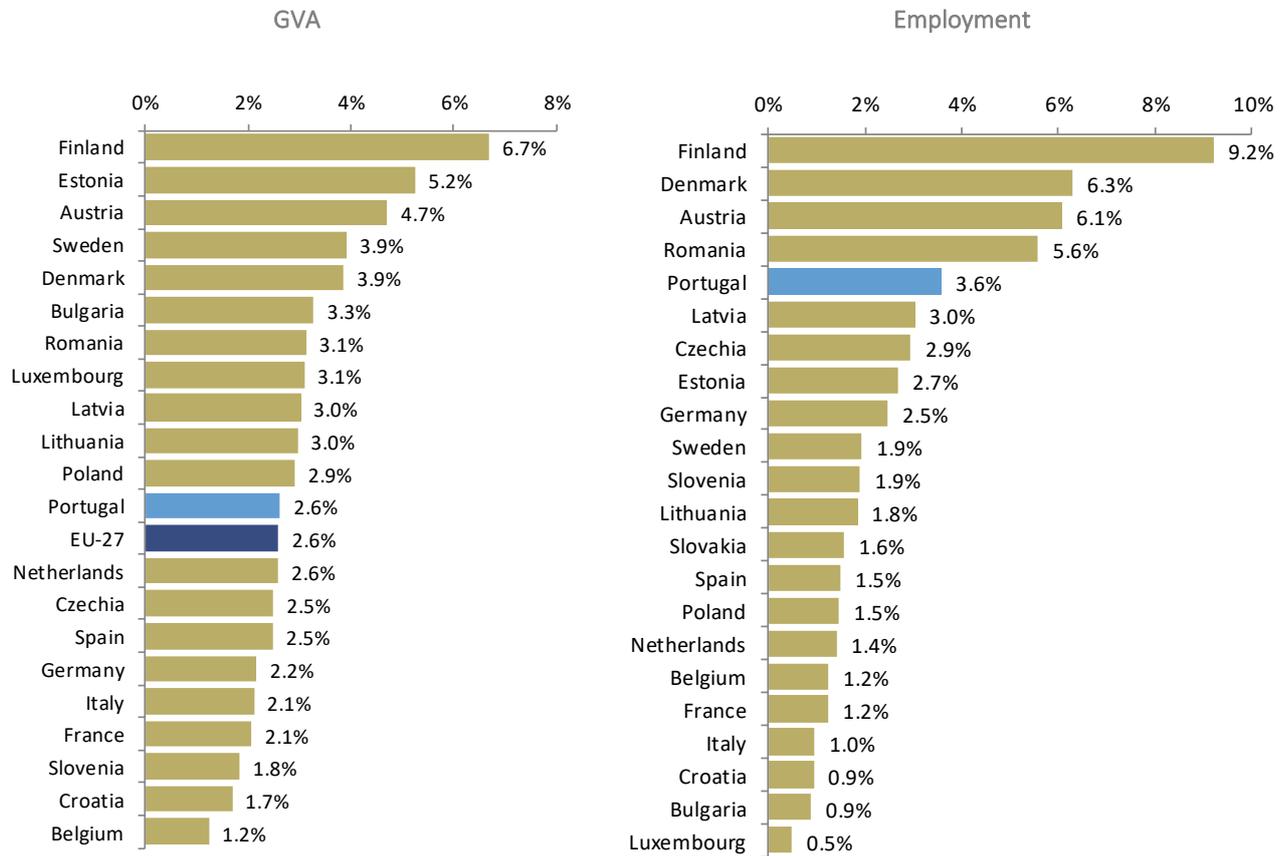
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2019, the weight of the GVA of the environmental goods and services sector in the economy was similar to that of the EU

In 2019 (the last year with information available for the EU), Portugal ranked twelfth among the countries with the highest weight of the GVA of the environmental goods and services sector in the national GVA (with 2.6%), with a value equivalent to the EU-27 average, and fifth among the countries with the highest weight of exports in the national total (3.6%).



Figure 8. Weight (%) of environmental goods and services sector GVA and exports in national GVA and exports, in European countries (2019)



Source: Eurostat (data extracted on the 5th September 2022); Portugal - Statistics Portugal (Environmental Goods and Services Sector Accounts)



METHODOLOGICAL NOTES

The Environmental Goods and Services Sector Accounts (EGSS) are part of the System of European Environmental Economic Accounts (SEEA) and are a mandatory transmission module, since 2017, to comply with Regulation (EU) No 691/2011 of the European Parliament and of the Council of 6 July 2011 on European Environmental Economic Accounts, as modified by Regulation (EU) No 538/2014 and Regulation (EU) 2022/125.

The environmental accounts were developed in connection with the System of National Accounts (SNA). They constitute a system of satellite accounts that presents environmental information in a format compatible with the National Accounts information, enabling an integrated analysis.

The environmental goods and services sector comprises goods and services produced for environmental protection and resource management purposes.

In addition to the Regulation, the main methodological reference documents for EGSS are the Eurostat manuals:

[*Environmental goods and services sector accounts Handbook, 2016*](#)

[*Environmental goods and services sector accounts Practical guide, 2016*](#)

[*CEPA and CReMA - Explanatory notes, December 2020*](#)

[*Guidance note – Reporting of electric and more resource-efficient transport equipment in EPEA and EGSS accounts, December 2020*](#)

In addition, and since the EGSS is a project consistent with the SNA, the concepts and nomenclatures of the latter must be used, and their methodological references must be observed, namely the United Nations System of National Accounts (SNA 2008) and the European System of Accounts (ESA 2010).

For further methodological developments, please refer to the Methodological notes (only in Portuguese version) - [*Notas metodológicas - Contas do Setor de Bens e Serviços Ambientais \(Base 2016\)*](#), available at Statistics Portugal website.

The comparisons with the results of other countries should be made with some caution. In fact, not all data presented originates from Satellite Accounts, and in some cases may result from the simple appropriation of surveys. In addition, there is still no complete harmonization in the type of environmental goods and services and units considered within the EGSS perimeter.



Revisions

Although the EGSS is under a regulation, it is still undergoing methodological development within the European Statistical System, namely on the identification of the boundaries of the environmental domains and on the classification of products.

The series now made available is based on the 2016 National Accounts base and incorporates the latest Eurostat guidelines.

The backward-looking series from 2014 to 2019 has been revised, namely by:

- revision of the reference population in some domains, such as *management of water* (CReMA 10) and *R&D activities for environmental protection and resource management* (CEPA 8 and CReMA 15). In the first case the Environmental Goods and Services Sector Survey (ISBSA) underwent a reformulation in 2018 allowing the restriction of the scope of *management of water* to the efficient use of water. The number of entities encompassed in environmental R&D activities and their coefficients was expanded, from the National Scientific and Technological Potential Surveys (IPCTN), namely in 2019.
- Introduction of a new data source on environmental innovation, the Community Innovation Survey (CIS), on the recommendation of Eurostat. This survey was improved in 2020 with the introduction of specific questions on environmental innovation in the national case. The impact was negligible (0.5% of output in 2020).
- Methodological adjustments consistent with the Environmental Protection Expenditure Accounts, namely in the institutional sector of General Government in the shares corresponding to the *protection of biodiversity and landscapes* (CEPA 6) and the *management of forest areas* (CReMA 11A), now including forest fires combat.

Table A. EGSS revisions

Variable	Compilation	Units	2014	2015	2016	2017	2018	2019
Output	2022 Edition	10 ⁶ Euro	10,923	11,151	11,848	12,411	13,209	13,731
	2021 Edition		11,030	11,287	11,939	12,551	13,347	13,898
	Rate of change		%	-1.0%	-1.2%	-0.8%	-1.1%	-1.0%
GVA	2022 Edition	10 ⁶ Euro	3,999	4,012	4,283	4,440	4,602	4,723
	2021 Edition		4,076	4,105	4,339	4,547	4,717	4,882
	Rate of change		%	-1.9%	-2.3%	-1.3%	-2.4%	-2.4%
Employment	2022 Edition	FTE	88,489	93,525	98,570	103,654	106,929	108,835
	2021 Edition		90,336	95,689	99,586	105,685	108,999	111,814
	Rate of change		%	-2.0%	-2.3%	-1.0%	-1.9%	-1.9%



ACRONYMS AND NAMES

CEPA: Classification of environmental protection activities

CIS: Community Innovation Survey

CReMA: Classification of resource management activities

EGSS: Environmental goods and services sector accounts

ESA 2010: European System of Accounts

FTE: Full-time equivalent

GVA: Gross Value Added

IPCTN: *Inquérito ao Potencial Científico e Tecnológico Nacional* (National Scientific and Technological Potential Survey)

ISBSA: *Inquérito ao Setor dos Bens e Serviços Ambientais* (Environmental Goods and Services Sector Survey)

Statistics Portugal: National Institute of Statistics

SNA: System of National Accounts

SNA 2008: United Nations System of National Accounts