



5 February 2024
ENVIRONMENTAL ACCOUNTS
2014 - 2021

IN 2021, THE OUTPUT, GVA AND EMPLOYMENT OF THE ENVIRONMENTAL GOODS AND SERVICES SECTOR GREW ABOVE THE TOTAL ECONOMY, DRIVEN BY RENEWABLE ENERGY

In 2021, the environmental goods and services sector represented 4.4% of output, 3.1% of GVA, 4.5% of exports and 2.7% of employment in the Portuguese economy.

After a year of contraction marked by the adverse effects of the COVID-19 pandemic, in 2021 this sector recorded strong growth in output (24.6%), GVA (20.6%), exports (22.3%) and employment (11.4%), and above the average for the national economy (12.1%, 7.0%, 20.1% and 2.4%, respectively), driven by growth in activities associated with renewable energies.

In 2020, the last year with available information for the EU, Portugal occupied the fifteenth position in relation to the share of GVA of the environmental goods and services sector in national GVA (2.8% and similar to the EU average), having dropped three positions from the previous year, and maintained its fifth position among the Member States with the highest weight of exports in the national total (4.4%).

This press release summarizes the main results of the Environmental goods and services sector accounts (EGSS) for 2021 and analyses the series available since 2014.

Additional tables are available on Statistics Portugal website, in the National Accounts dissemination area ([Satellite Accounts Accounts](#)), as well as Methodological Notes ([documentos metodológicos¹](#)) for these accounts.

In 2021, the output, GVA and employment of the environmental goods and services sector grew strongly, more than in the economy as a whole

After a year of contraction marked by the adverse effects of the COVID-19 pandemic, the environmental goods and services sector recorded strong increases in output (24.6%), Gross Value Added (GVA) (20.6%), exports (22.3%) and employment (11.4%) in 2021, above the average for the national economy (rates of change of 12.1%, 7.0%, 20.1% and 2.4%, respectively). These increases were mainly driven by the domain with the greatest relative importance (*management of energy resources*), with growing demand due, among other factors, to environmental policies, particularly those related to the energy transition.

¹ Only in Portuguese version.



Between 2014 and 2021, the environmental goods and services sector was more dynamic than the total economy, with average annual growth in exports (6.9%), output (5.9%), employment (4.9%) and GVA (4.8%) above those observed in the national economy (3.2%, 3.1%, 1.6% and 2.7%, respectively).

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

		2014	2015	2016	2017	2018	2019	2020	2021	Rate of change (%) 20/21	Average rate of change (%) 14/21
Output											
Environmental Goods and Services	10 ⁶	10,923	11,151	11,848	12,411	13,209	13,726	13,828	17,228	24.6	5.9
Economy	euro	309,831	317,833	324,823	347,793	366,734	381,407	352,705	395,496	12.1	3.1
Weight in the economy		3.5%	3.5%	3.6%	3.6%	3.6%	3.6%	3.9%	4.4%		
GVA											
Environmental Goods and Services	10 ⁶	3,999	4,012	4,283	4,440	4,602	4,721	4,815	5,807	20.6	4.8
Economy	euro	151,136	156,517	161,993	169,642	177,466	185,536	174,768	187,070	7.0	2.7
Weight in the economy		2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.8%	3.1%		
Exports											
Environmental Goods and Services	10 ⁶	2,349	2,647	2,970	3,127	3,393	3,331	3,263	3,992	22.3	6.9
Economy	euro	69,595	72,991	74,989	83,717	89,144	93,271	74,286	89,207	20.1	3.2
Weight in the economy		3.4%	3.6%	4.0%	3.7%	3.8%	3.6%	4.4%	4.5%		
Employment											
Environmental Goods and Services	FTE	88,489	93,525	98,570	103,654	106,929	108,736	116,750	130,044	11.4	4.9
Economy		4,246,752	4,327,565	4,426,856	4,579,158	4,720,439	4,807,467	4,701,371	4,812,991	2.4	1.6
Weight in the economy		2.1%	2.2%	2.2%	2.3%	2.3%	2.3%	2.5%	2.7%		

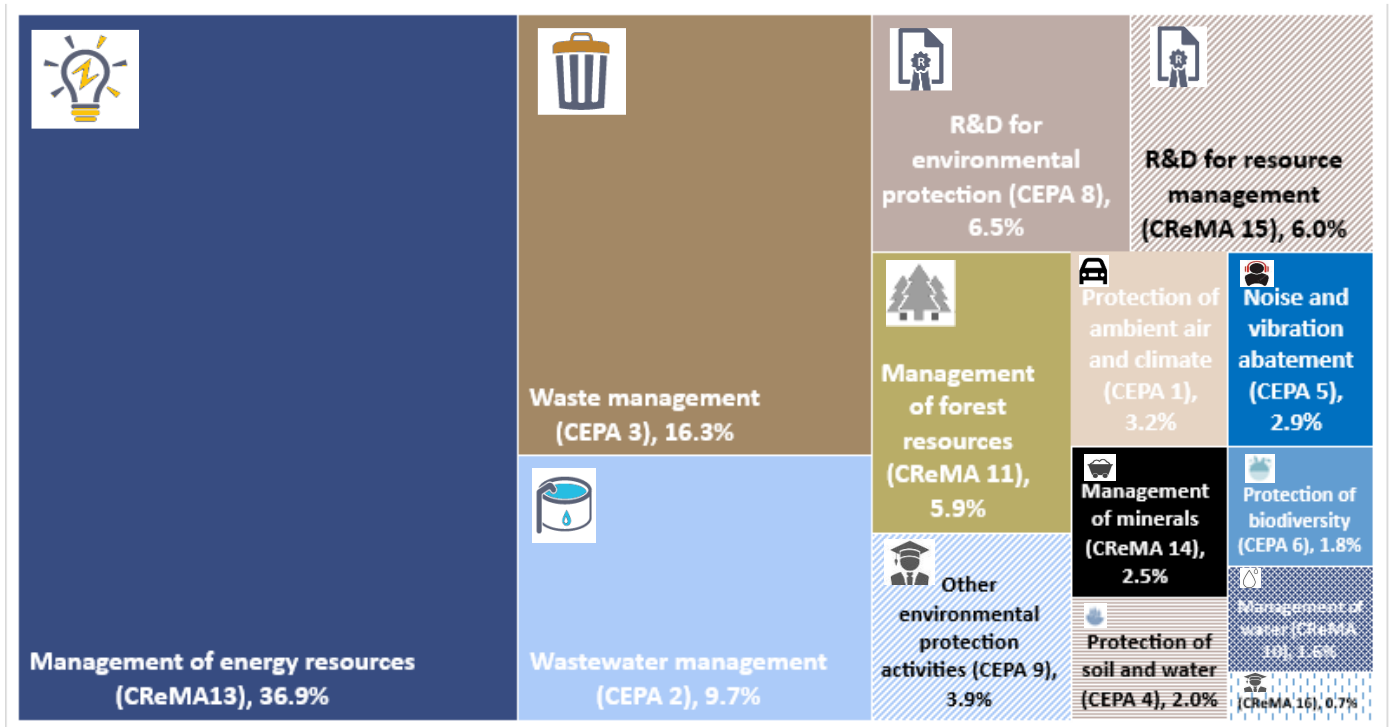
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2021, the management of energy resources remained the most relevant area

In 2021, as it 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* (36.9%), *waste management* (16.3%) and *wastewater management* (9.7%).



Figure 1. GVA by environmental domain (2021)



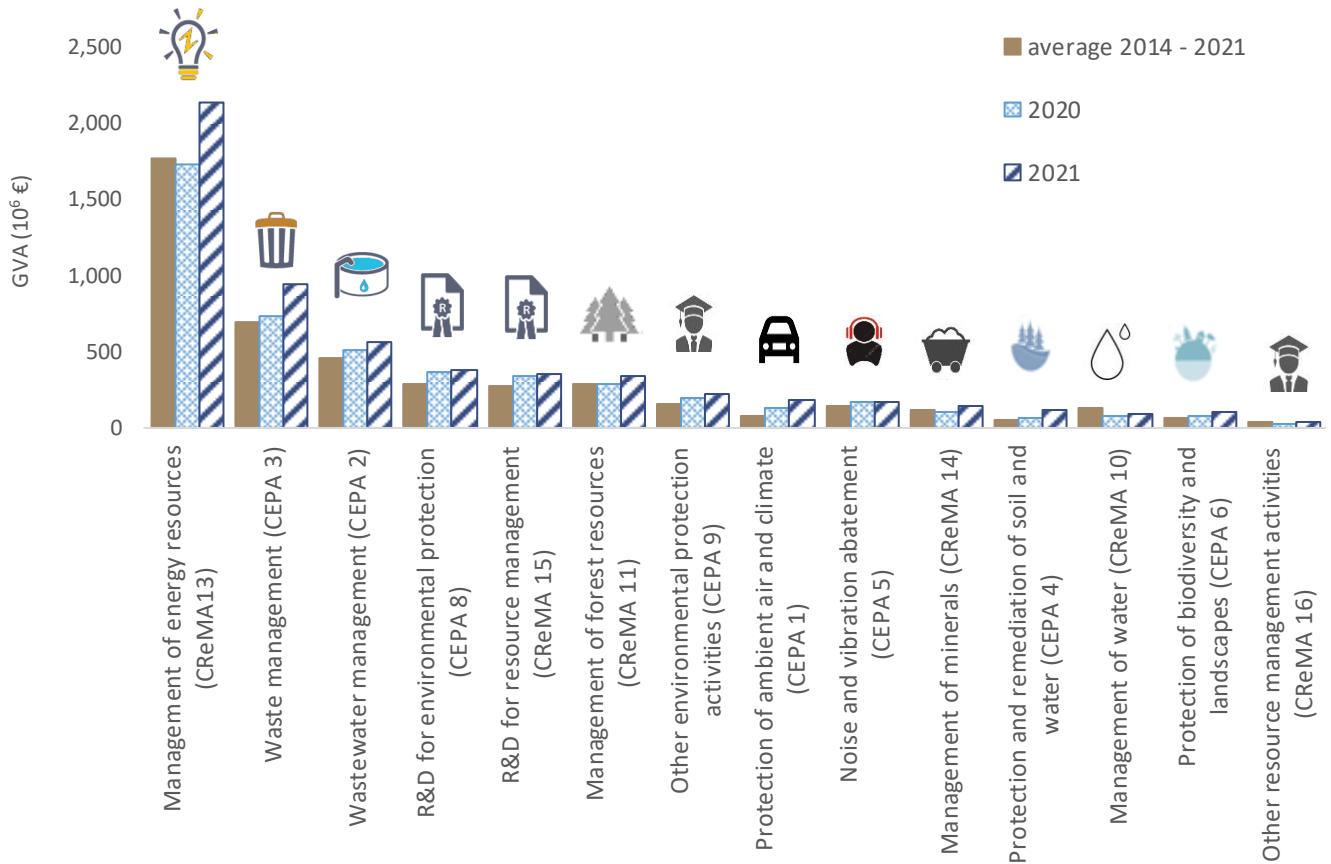
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2021, there was an increase in GVA in all environmental areas, standing out due to its relative weight, the *management of energy resources* (23.4%), driven by the growth in the production of solar and wind energy equipment, the *waste management* (29.5%) and the *wastewater management* (10.5%). In the domains with a lower relative weight, are worth highlighting the growth in *protection and remediation of soil and water* (86.7%), as a result of increases in organic agriculture and aquaculture, in *protection of ambient air and climate* (42.8%), continuing the previous upwards trend associated with electric mobility, namely the production of electric bicycles and electric vehicle charging stations, and in *protection of biodiversity and landscapes* (39.1%).

Note that, due to its high relative importance, the *management of energy resources* determines the evolution of the environmental goods and services sector. The evolution of GVA is influenced by the production of renewable energy and energy efficiency equipment and the production of renewable energy (dependent on wind, solar and hydrological conditions, with 2021 being a hot and dry year, like the previous two years, but with normal wind and solar conditions).



Figure 2. GVA by environmental domain (2014 - 2021)



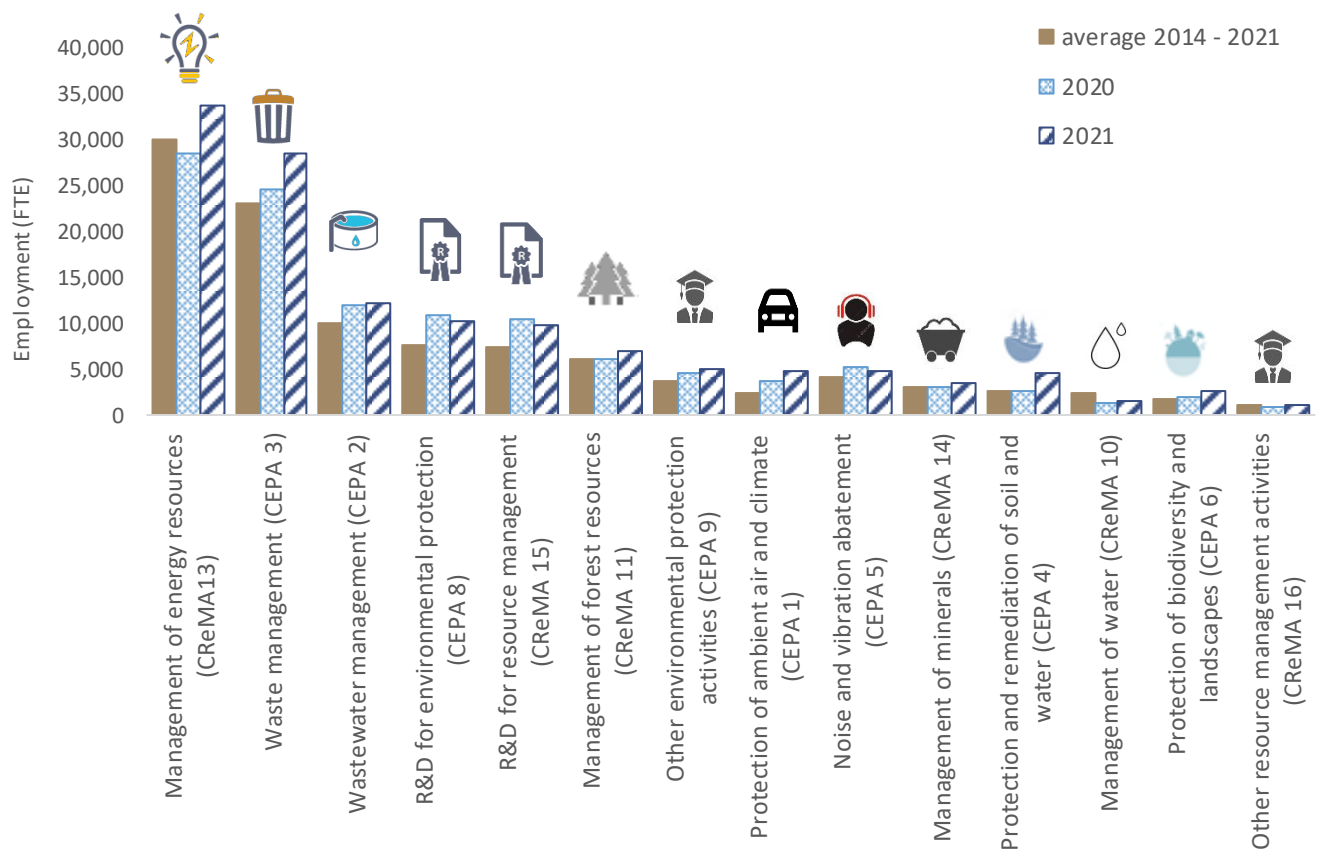
Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

In 2021, the evolution observed in employment was similar to that of GVA, with an increase in all environmental areas, with *management of energy resource* (18.2% increase) and *waste management* (15.7%) standing out for their relative weight. In the areas with a lower relative weight, the developments in *protection and remediation of soil and water* (73.2%), *protection of ambient air and climate* (34.2%) and *protection of biodiversity and landscapes* (32.4%) also stand out.



The comparison of GVA and employment in 2021 with the average values for the period 2014 - 2021 proves the very positive evolution of the environmental goods and services sector over the eight years analysed².

Figure 3. Employment by environmental domain (2014 - 2021)



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

Analysing the GVA generated per FTE (employment measured in full-time equivalents), it can be seen that the environmental goods and services sector presents a value 21% higher than that observed in the national economy, on average for the period under analysis (2014 - 2021). It should be noted, however, that most of the

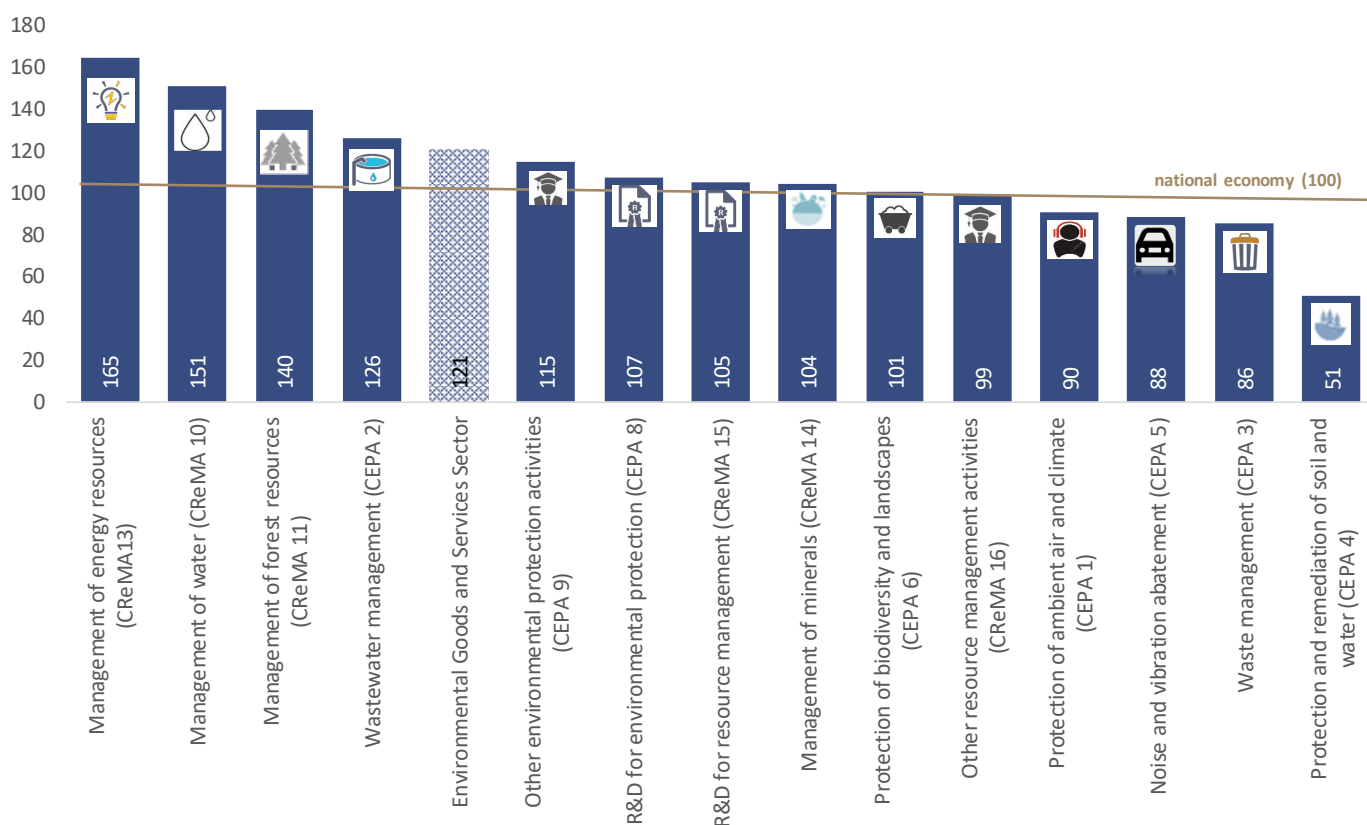
² It should be noted that the exception to this behaviour is in the management of water domain, as a result of a break in the series of information in this field in 2018, associated with the reduction of the scope of management of water to the efficient use of water implemented in the Survey of the Environmental Goods and Services Sector (ISBSA).

various areas of this sector are intensive in capital, where the labour factor is less important than in most other branches of activity, thus showing GVA values per FTE higher than the national economy.

On average, in the period 2014 - 2021, it stands out as the domains with the highest ratios, the *management of energy resources*, the *management of water* and *the management of forest resources* (respectively 65%, 51% and 40% above the national average).

Figure 4. GVA / employment by environmental domain (2014 - 2021)

(national economy=100)



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

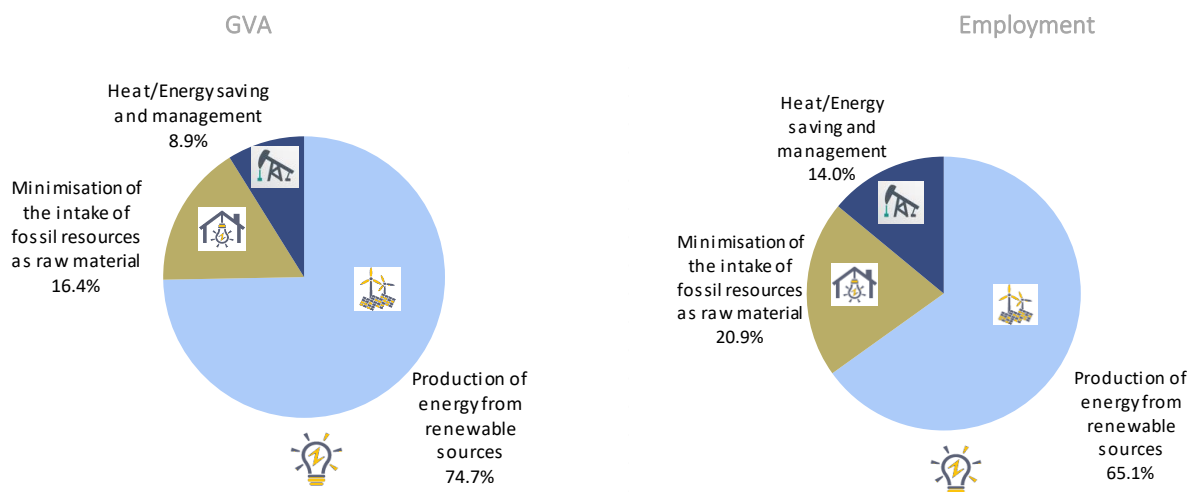


In the management of energy resources, the GVA and employment contributions of the class production of energy from renewable sources stand out

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* (74.7% of total GVA and 65.1% of employment on average, in the period 2014-2021). This class presents the highest GVA / employment ratio (92% higher 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 - 2021)



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

Waste management is the area with the second highest contribution to employment and GVA, but unlike *management of energy resources*, it has one of the lowest GVA / employment ratios (14% less than the national average in the period 2014-2021), because it is more labour intensive.

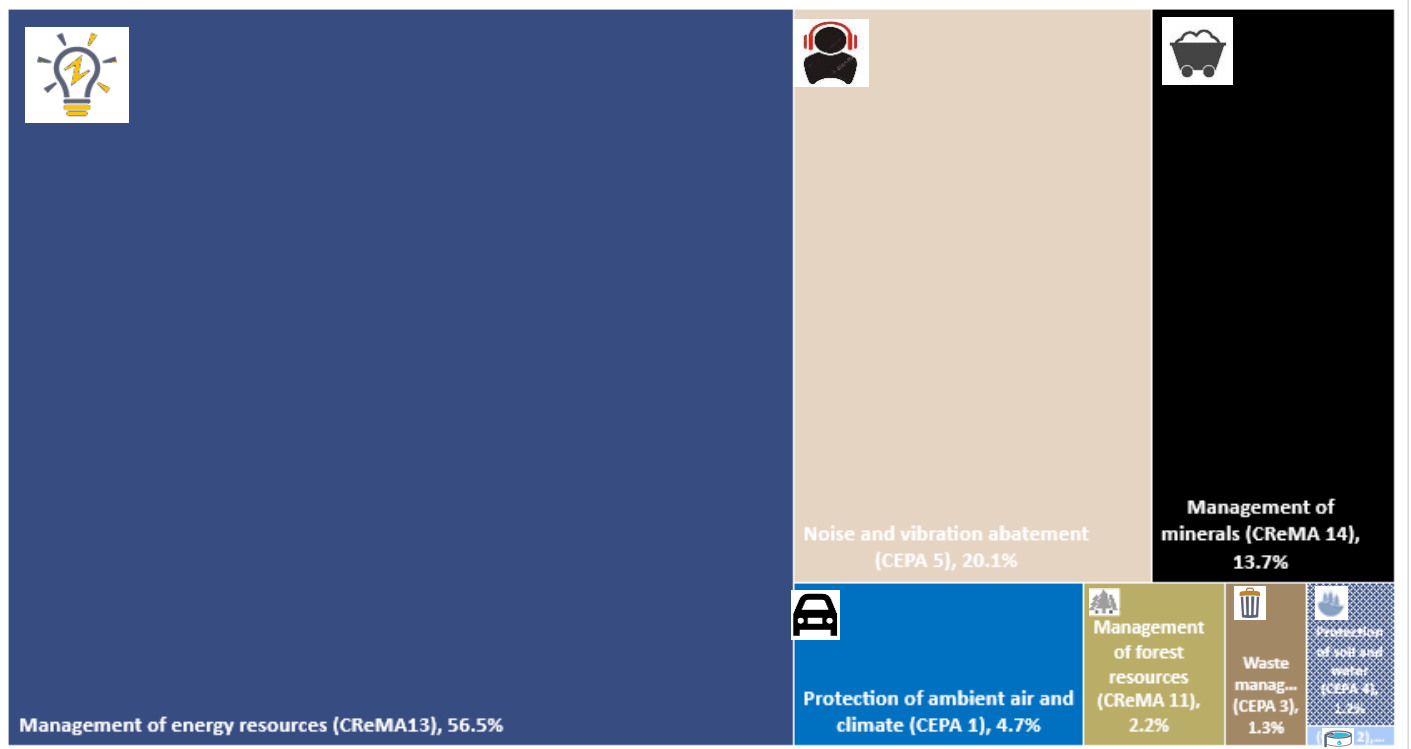


Exports from the environmental goods and services sector grew by 22.3% in 2021, 2.2 pp above the total exports from the national economy

Exports grew by 22.3% in 2021, compared to a 20.1% increase in the national economy's total exports.

The *management of energy resources* accounted for more than half of exports in the environmental goods and services sector (56.5%), particularly exports of electricity from renewable sources and equipment for producing solar energy (photovoltaic panels and other components) and wind energy (such as wind power generator sets and other components). This was followed by *noise and vibration abatement*, with a relative weight of 20.1%, mainly due to silencers for motor vehicles, and *management of minerals*, with 13.7% of exports, as a result of the amounts of metallic and non-metallic mineral waste for recovery.

Figure 6. Exports of environmental goods and services by environmental domain (2021)

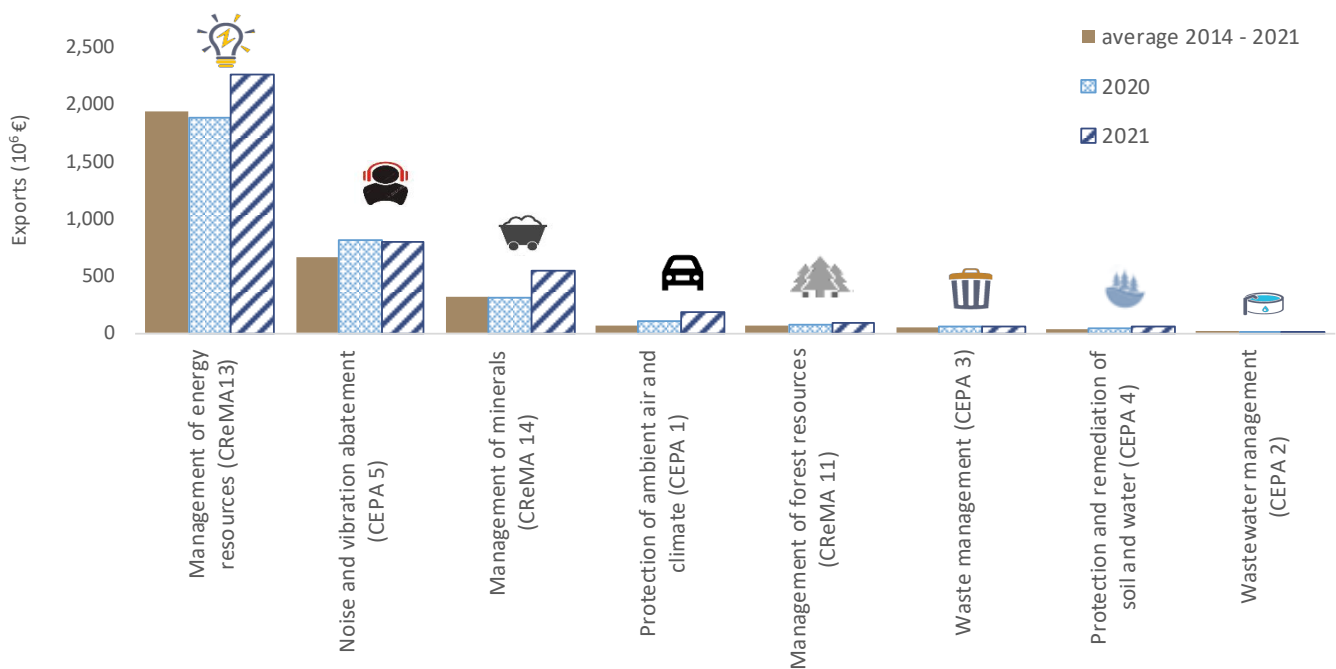


Source: Statistics Portugal (Environmental Goods and Services Sector Accounts)

As already observed in other economic variables, given its relative weight, the *management of energy resources* determines the evolution of this sector, with its exports increasing by 19.7% in 2021. *Management of minerals* saw a substantial increase (79.8%), due to the rise in exports of precious metals for recovery. Exports of goods and services related to *noise and vibration abatement* showed the opposite trend (-1.0%).

Strong growth continued in exports associated with *protection of ambient air and climate* (77.9%), which has been accentuated since 2019, due to a significant increase in electric bicycles, although their weight in exports of environmental goods and services remains relatively small (4.7%). It is also worth noting the notable increase in exports in the *protection and remediation of soil and water* (44.4% change in 2021), mainly due to organic aquaculture and agriculture products.

Figure 7. Exports by environmental domain (2014 - 2021)



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

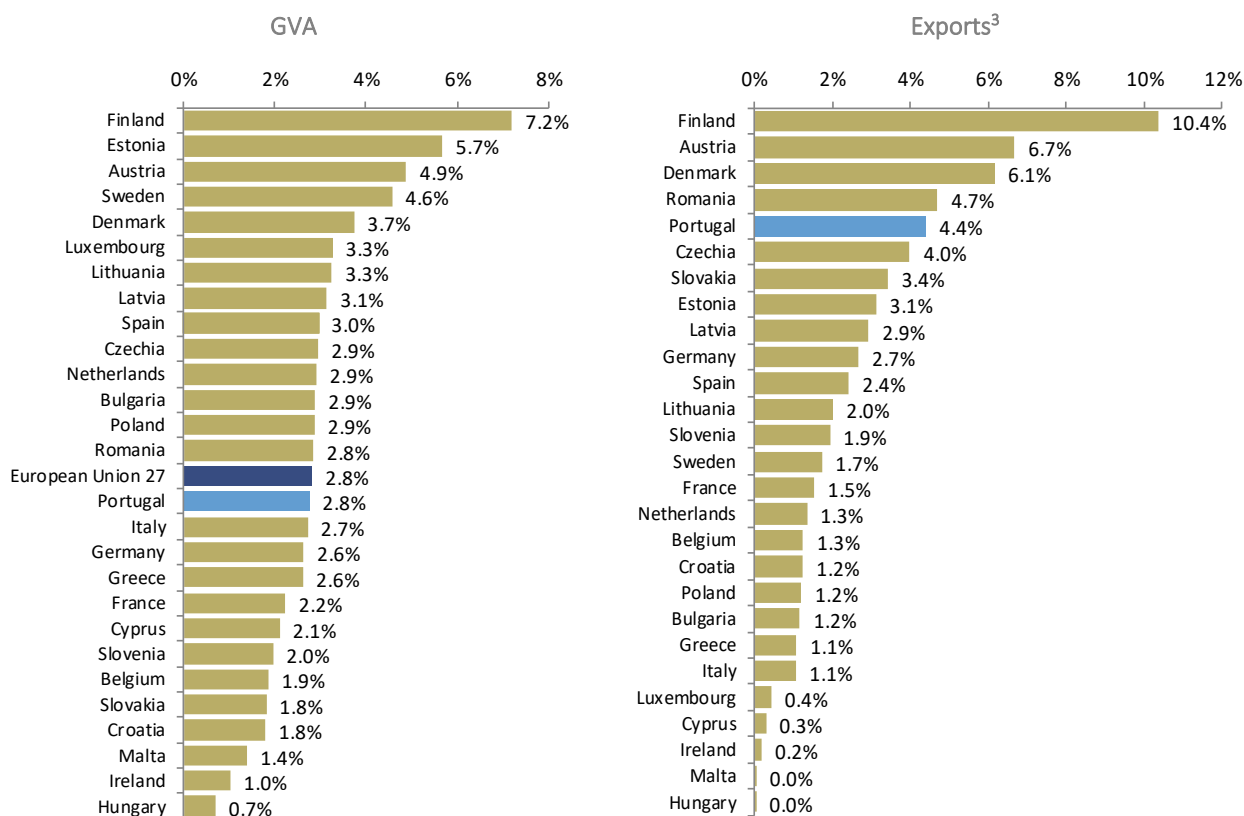
As with GVA and employment, the comparison of exports in 2021 with the average value for the 2014-2021 period proves the very positive evolution of the environmental goods and services sector over the eight years analysed.



In 2020, the weight of the GVA of the environmental goods and services sector in the economy was similar to that of the EU

In 2020, the last year with information available for the EU, Portugal ranked the fifteenth position among the Member States with the highest weight of the GVA of this sector in the national GVA (2.8%), with a value equal to the EU-27 average, down three places over the previous year, and maintained its fifth position among the countries with the highest share of exports in the national total (4.4%).

Figure 8. Weight (%) of environmental goods and services sector GVA and exports in national GVA and exports, in European countries (2020)



Source: Eurostat (data extracted on the 18th January 2024); Portugal - Statistics Portugal (Environmental Goods and Services Sector Accounts)

³ Data for the EU27 is not published by Eurostat.



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 benchmark year and incorporates the latest Eurostat guidelines.

The results for 2019 and 2020 have been revised, with changes made to improve the consistency of information on *management of minerals* (CReMA 14) and the integration of final information for the 2020 National Accounts, particularly for the General Government institutional sector.

Table A. EGSS revisions

Variable	Compilation	Units	2019	2020
Output	2023 Edition	10 ⁶ Euro	13,726	13,828
	2022 Edition		13,731	13,811
	Rate of change	%	-0.04%	0.13%
GVA	2023 Edition	10 ⁶ Euro	4,721	4,815
	2022 Edition		4,723	4,813
	Rate of change	%	-0.04%	0.03%
Employment	2023 Edition	FTE	108,736	116,750
	2022 Edition		108,835	116,719
	Rate of change	%	-0.09%	0.03%



ACRONYMS AND NAMES

CEPA: Classification of environmental protection activities

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

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

Statistics Portugal: National Institute of Statistics

SNA: System of National Accounts

SNA 2008: United Nations System of National Accounts