

Environmental protection expenditure accounts

Data extracted in July 2019.
Planned article update: July 2020.

Highlights

In 2018, the EU spent EUR 297 billion on environmental protection (1.9 % of Gross Domestic Product).

National expenditure on environmental protection, EU-28, 2006–2018

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 (% of GDP) 1.8 41.8 61.8 81.9 1.9 21.9 41.9 61.9 82.0 22.0 42.0 62.0 8

- Note: Data for EU are estimated by Eurostat
- Source: Eurostat (online data codes: env_ac_pepsgg, env_ac_pestsp, env_ac_pestnsp, env_ac_eptrf, env_ac_epneec and nama_10_gdp)

This article presents results of the 2018 data collection on environmental protection expenditure accounts (EPEA) provided by [European Union \(EU\)](#) Member States with reporting obligation (Cyprus was granted a derogation) and selected non-EU countries. It provides information on the EU's expenditure on prevention, reduction and elimination of pollution or any other degradation of the environment and covers the total spending by a country (i.e. by its households, businesses and government) on environmental protection services, e.g. waste and wastewater management, protection of biodiversity, as well as protection of soil, research and development, education and training,

In 2018, the EU Member States spent EUR 297 [billion](#) on environmental protection, which amounted to 1.9 % of [gross domestic product \(GDP\)](#). Purchases of environmental services by households and by government, and investments made by producers of environmental services, and by corporations to reduce environmental impacts of their activities, accounted for nearly two thirds of the spending (61 %).

Detailed information on composition of national expenditure on environmental protection ('NEEP'), on contributions to NEEP of different sectors and shares of various transactions is provided in the first three sections of this article.

The environmental services are produced both by private corporations and by government. The share of each sector in the total output of environmental services depends on national arrangements and varies across EU Member States. For further information on production of environmental protection services by environmental domain (according to the [classification of environmental protection activities \(CEPA 2000\)](#), see section "Production of environmental protection services" of this article.

More information about the supply of environmental protection products is provided based on the environmental goods and services sector accounts data (EGSS): see the articles on [environmental economy — employment and growth](#).

Full article

National expenditure on environmental protection

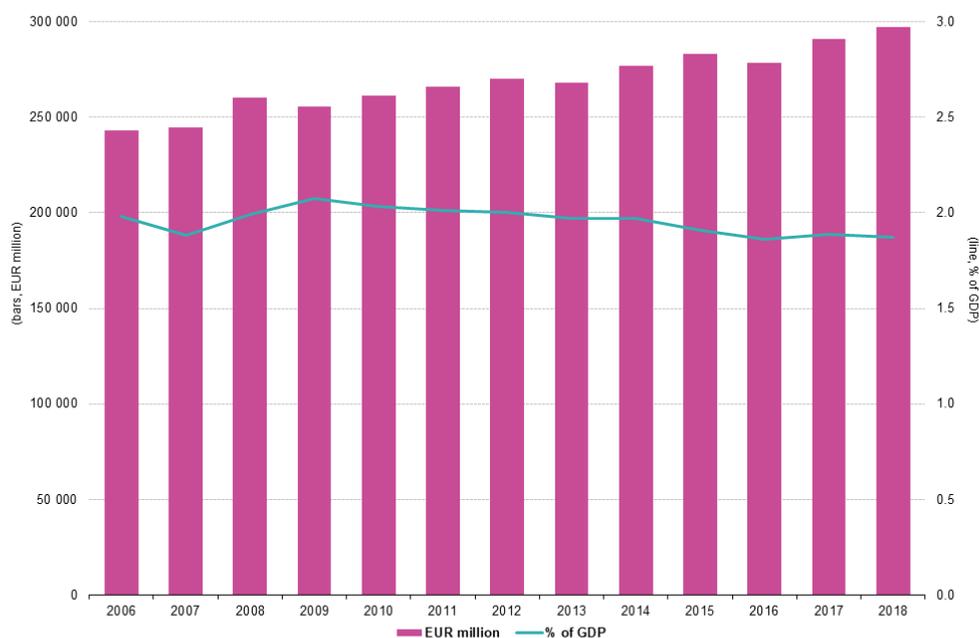
National expenditure on environmental protection

National expenditure on environmental protection ('NEEP') measures the resources used by resident units in a given period for protecting the natural environment. It is calculated as a sum of current expenditure on environmental protection (EP) activities and investments for EP activities, including net transfers to the rest of the world.

In 2018, [EU-28](#) national expenditure on environmental protection of all EU Member States amounted to EUR 297 [billion](#), according to Eurostat's estimates.

From 2006 to 2018, NEEP at current prices increased overall by 22.1 %, rising on average by nearly 2 % each year (see Figure 1, left scale).

National expenditure on environmental protection, EU-28, 2006–2018
(EUR million and % of GDP)



Note: Data for EU-28 are estimated by Eurostat
Source: Eurostat (online data codes: env_ac_pepsgg, env_ac_pestsp, env_ac_pepsnsp, env_ac_eptfr, env_ac_epneec and nama_10_gdp)

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Figure 1: National expenditure on environmental protection, EU-28, 2006–2018 (EUR million and % of GDP)

Source: Eurostat ([env_ac_pepsgg](#)), ([env_ac_pestsp](#)), ([env_ac_pepsnsp](#)) and ([nama_10_gdp](#))

As percentage of [gross domestic product \(GDP\)](#), EU-28 NEEP remained relatively stable between 2006 and 2018. In 2006 the share amounted to 2.0 %, a small increase to 2.1 % of GDP is observed in 2009, mainly as a result of a large GDP contraction during the financial crisis and economic recession, stabilizing at around 1.9 % from 2015 onwards.

Estimates by [institutional sectors](#) highlight that corporations made the largest contribution to NEEP, and accounted for 54 % of total NEEP in 2018. The expenditure of [general government](#) and [non-profit institutions serving households \(NPISH\)](#) as a whole, and of households accounted respectively for 24 % and 22 % of total NEEP in 2018.

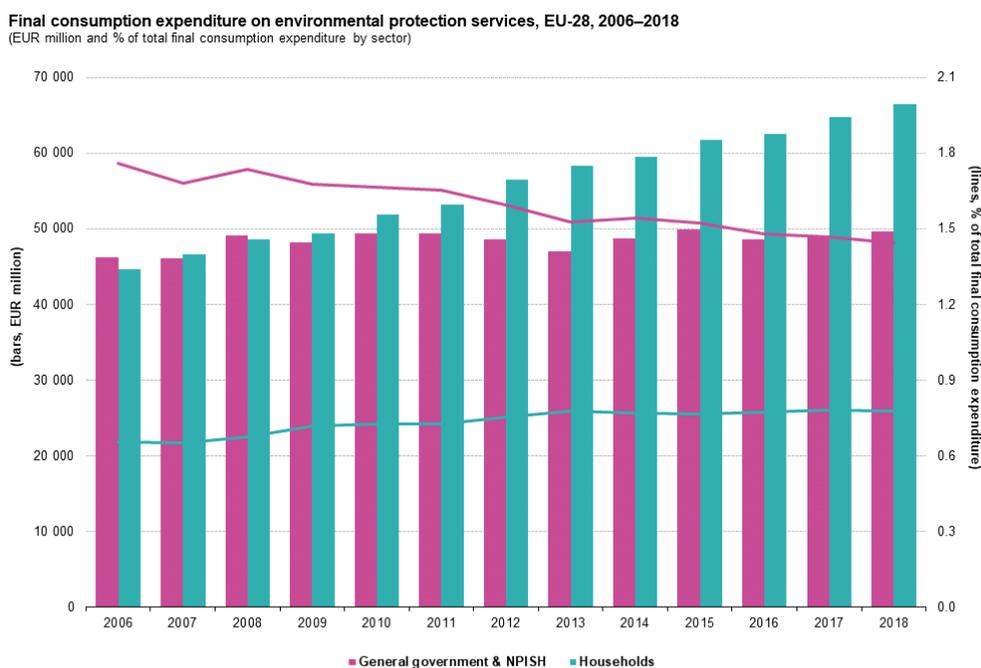
Final consumption expenditure on environmental protection

In 2018, households and general governments' purchases of environmental protection services for final use ([final consumption expenditure](#)) amounted to EUR 116 [billion](#), accounting for nearly two fifths of total NEEP.

Over the half (57 %) of the EU-28 final consumption expenditure on environmental protection services, around EUR 66 billion, was covered directly by households. The remaining 43 %, around EUR 50 billion, was spent by general government and non-profit institutions serving households (NPISH) to produce environmental protection services which were then provided to all citizens for free or at a price that is not economically significant.

Between 2006 and 2018, households' expenditure on environmental protection expenditure services increased by nearly 50 % over the entire period, which is equivalent to an average annual growth rate of 3.4 % (see Figure 2, left scale). Still, environmental protection accounted for a very small proportion of households' spending (less than 1 %), and this share remained stable over the recent decade (see Figure 2, right scale).

General government and NPISH expenditure on environmental protection services increased by 7.5 % from 2006 to 2018, i.e. on average 0.6 % per year. In 2018 final expenditure of environmental protection services accounted for 1.4 % of the total final consumption of these sectors.



Note: Data for EU28 are estimated by Eurostat
Source: Eurostat (online data codes: env_ac_cepshg, nama_10_gdp)

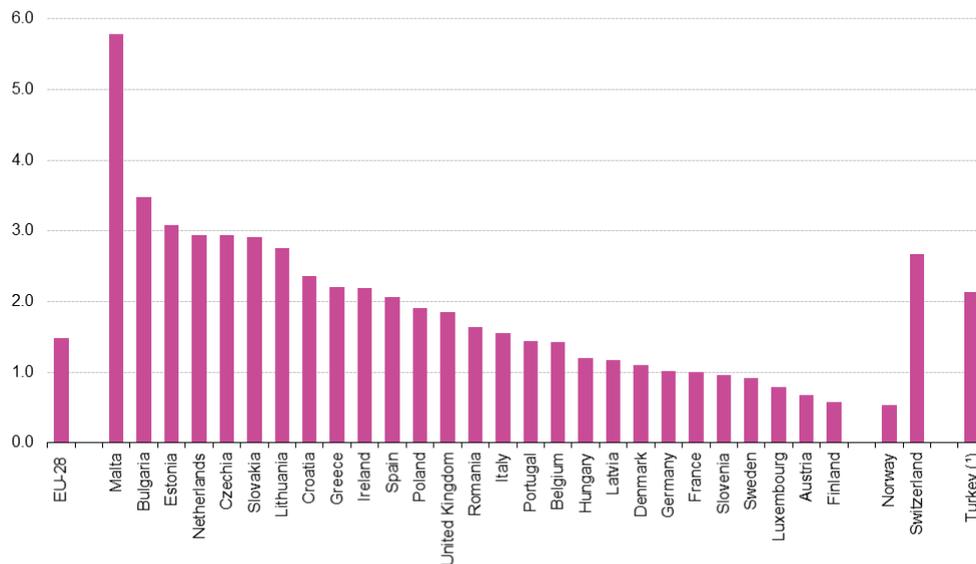


Figure 2: Final consumption expenditure on environmental protection services, EU-28, 2006–2018 (EUR million and % of total final consumption expenditure by sector)

Source: Eurostat ([env_ac_cepsgh](#)), ([nasa_10_nf_tr](#)) and ([nama_10_fcs](#))

Figure 3 presents the share of the environmental protection expenditure in the final consumption of general government and NPISH sectors across the EU. In 2016, the last mandatory year for data reporting, the EU-28 share amounted to 1.5 %, and for the large majority of Member States the share ranged between 1 % and 3 %.

Final consumption expenditure on environmental protection services by general government and NPISH, 2016
(% of GG and NPISH total final consumption expenditure)



Note: data for EU-28 are estimated by Eurostat; NPISH: non-profit organisations serving households
(*) Only GG total final consumption are included in the calculation of indicator; no data available for NPISH.
Source: Eurostat (online data code: env_ac_cepsgh and nasa_10_gdp)



Figure 3: Final consumption expenditure on environmental protection services by GG and NPISH, 2016 (% of GG and NPISH total final consumption expenditure)

Source: Eurostat ([env_ac_cepsgh](#)) and ([nama_10_gdp](#))

For households, the EU-28 share of final consumption expenditure on environmental protection services in their total final consumption amounted to 0.8 % in 2016 (see Figure 4).

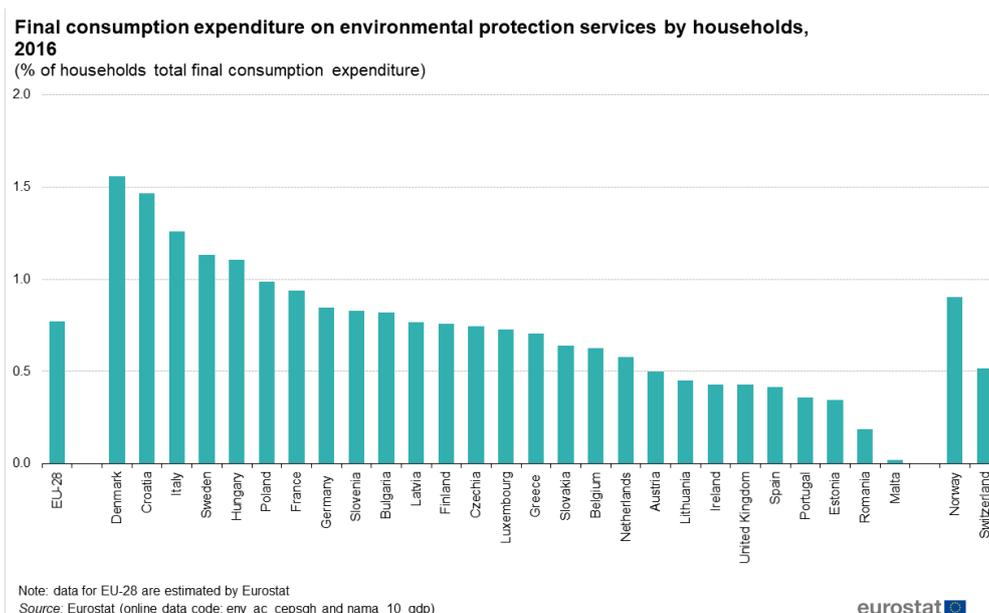


Figure 4: Final consumption expenditure on environmental protection services by households, 2016
(% of households total final consumption expenditure)

Source: Eurostat ([env_ac_cepsgh](#)) and ([nama_10_gdp](#))

Environmental protection investments

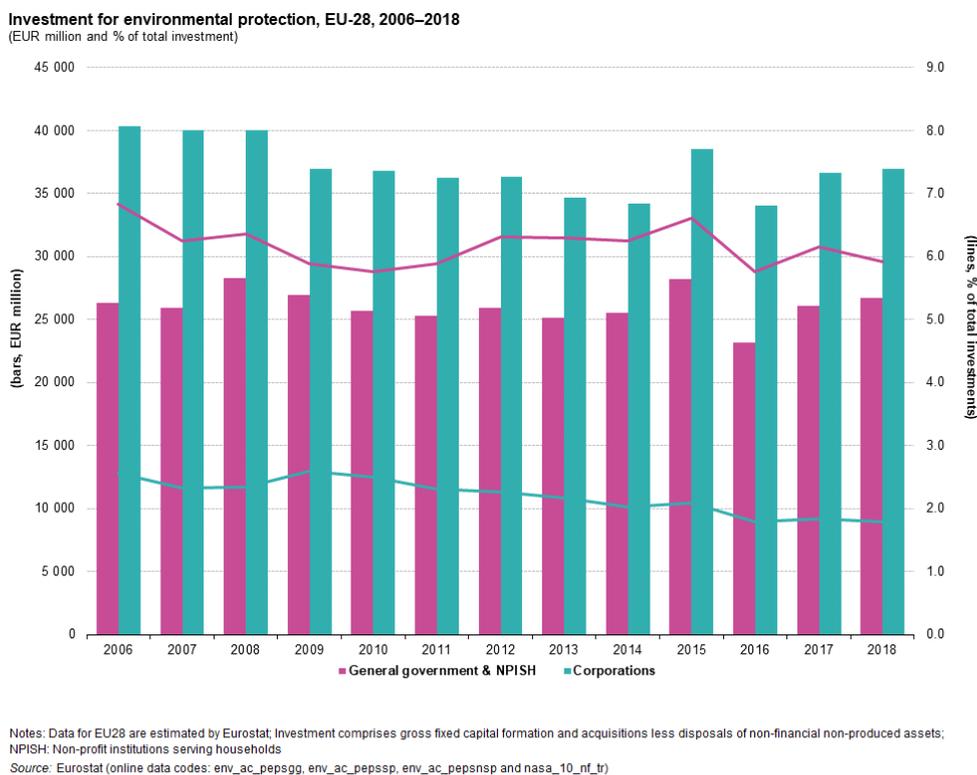
In 2018 EU-28 invested EUR 64 billion (21 % of NEEP) into assets essential to provide environmental protection services (e.g. wastewater treatment plants, vehicles to transport waste, and acquisitions of land to create a natural reserve or cleaner equipment for producing with less polluting emissions).

About EUR 37 billion (58 % of total environmental protection investments) was spent by corporations, both the specialist providers of environmental protection services (e.g. private companies dealing with waste collection and processing and with sewerage) and other corporations, to develop and purchase technologies and equipment reducing the environmental pressures arising from their production process (e.g. equipment reducing the air emissions). General government and NPISH accounted, with EUR 27 billion spent in 2018, for the remaining share (42 %) of environmental protection investments.

Still, between 2006 and 2018, investments of the corporations decreased by 8.4 %, whilst they remained relatively stable for general government and NPISH (see Figure 5).

The share of environmental protection investments in total investments of corporations is relatively low. In 2018, it amounted to 1.8 %, having decreased by 0.8 percentage points since 2006. The equivalent

share for general government and NPISH sector was larger: it amounted to 5.9 % in 2018, having decreased by 0.9 percentage points since 2006 (see Figure 5).



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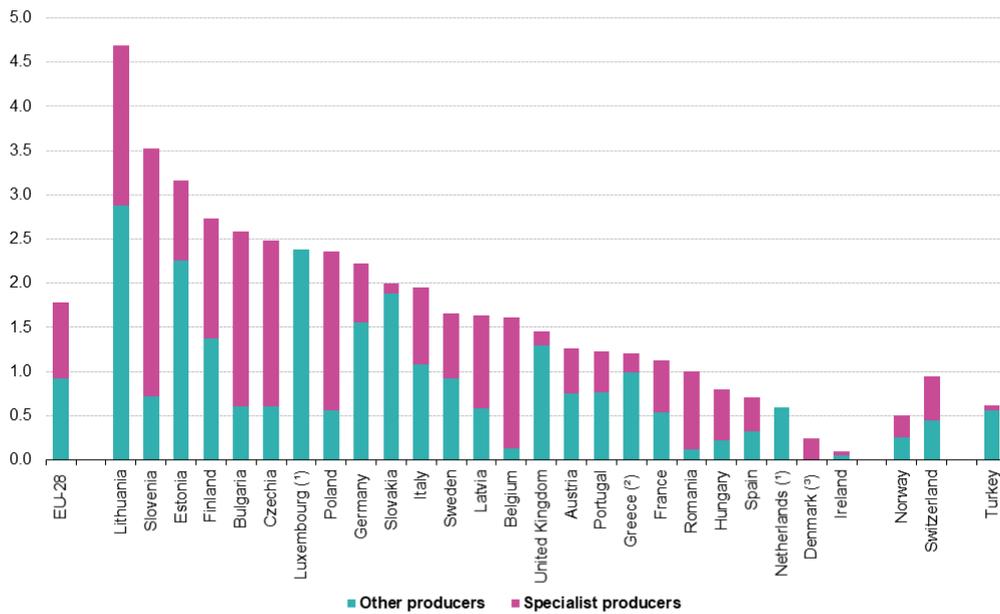


Figure 5: Investment for environmental protection, EU-28, 2006–2018 (EUR million and % of total investment)

Source: Eurostat ([env_ac_pepsgg](#)), ([env_ac_pepssp](#)), ([env_ac_pepsnsp](#)) and ([nasa_10_nf_tr](#))

More detailed data by EU Member State highlight that for 2016 the share investments for environmental protection in total investments by business sector varied across countries, ranging from 0.1 % to 4.7 % of total investments (see Figure 6).

Investment for environmental protection by corporations, 2016
(% of corporations' total investment)



Notes: data for EU28 are estimated by Eurostat; Investment comprises gross fixed capital formation and acquisitions less disposals of non-financial non-produced assets

(*) Other producers: not available.

(*) Other producers: Eurostat estimates

(*) Specialist producers: not available.

Source: Eurostat (online data code: env_ac_pepssp, env_ac_pepsnsp and nasa_10_nf_tr)



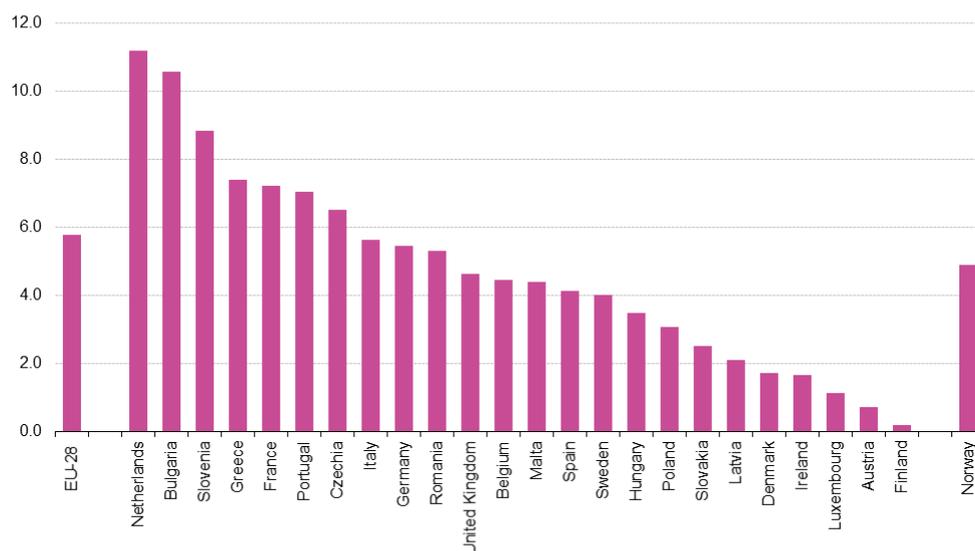
Figure 6: Investment for environmental protection by corporations, 2016 (% of corporations' total investment)

(% of corporations' total investment)

Source: Eurostat ([env_ac_pepssp](#)), ([env_ac_pepsnsp](#)) and ([nasa_10_nf_tr](#))

Even larger variations were observed for the general government and NPISH sectors, the shares ranging from 0.2 % to 11.2 % across the EU (see Figure 7).

Investment for environmental protection by general government and non-profit institutions serving households (NPISH), 2016
(% of general government total investment)



Notes: data for EU28 are estimated by Eurostat; Investment comprises gross fixed capital formation and acquisitions less disposals of non-financial non-produced assets; no data available on total general government investment for Croatia. Estonia and Lithuania are not presented in this graph; for these countries the value of disposals of non-financial non-produced assets is than investments in fixed assets in 2016.
Source: Eurostat (online data code: env_ac_pepsgg and nasa_10_nf_tr)

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Figure 7: Investment for environmental protection by general government and non-profit institutions serving households (NPISH), 2016 (% of GG and NPISH total investment) (% of general government total investment)

Source: Eurostat ([env_ac_pepsgg](#)) and ([nasa_10_nf_tr](#))

Production of environmental protection services

Data on production of environmental protection services, broken down by institutional sector and environmental protection domain (using the [classification of environmental protection activities \(CEPA 2000\)](#)) highlight that in the EU-28 general government and NPISH produced EUR 86 billion of these services in 2016.

The largest share of the [output of environmental protection services](#) by general government and NPISH was recorded for two environmental domains: waste management and wastewater management. In EU-28 the production for both domains accounted in 2016 for 67 % of total output of environmental protection services (see Table 1). In the majority of Member States similar or larger shares are observed.

General government and non-profit institutions serving households: output of environmental protection services, 2016
(EUR million)

	Wastewater management	Waste management	Protection of biodiversity	Pollution abatement	Other domains	Total environmental protection
EU-28	18 151	39 945	9 036	4 413	14 678	86 225
Belgium	230	1 815	150	280	470	2 944
Bulgaria (*)	3	239	2	5	25	273
Czechia	93	614	380	8	113	1 207
Denmark	0	5	559	116	255	934
Germany	6 075	3 655	1 308	1 269	2 509	14 816
Estonia	8	41	12	3	87	151
Ireland (*)	634	8	26	54	92	815
Greece	15	899	8	0	26	948
Spain	1 248	5 933	788	211	904	9 083
France	3 197	1 284	795	315	4 764	10 356
Croatia	0	79	0	217	0	296
Italy	719	9 136	3 144	687	685	14 371
Latvia	8	82	6	9	17	122
Lithuania	16	97	16	8	48	185
Luxembourg	4	89	49	9	13	165
Hungary	14	109	122	59	34	338
Malta	18	73	20	1	1	112
Netherlands	3 387	4 061	537	425	1 449	9 859
Austria	1 228	876	76	374	220	2 774
Poland	349	429	153	140	544	1 614
Portugal	149	487	221	2	207	1 066
Romania	28	345	0	49	44	467
Slovenia	19	7	19	7	28	80
Slovakia	21	431	29	19	132	631
Finland	0	0	2	0	406	408
Sweden	526	1 230	148	61	541	2 507
United Kingdom	145	7 916	449	83	1 057	9 650
Norway	993	766	76	98	201	2 134
Switzerland	1 307	2 145	202	267	473	4 394
Turkey	36	2 153	234	229	270	2 923

Notes: Data for EU-28 are estimated by Eurostat.

(*) Estimates

(*) Pollution abatement includes: protection of ambient air and climate; protection and remediation of soil, groundwater and surface water; noise and vibration abatement; protection against radiation

(**) Other domains include: environmental research and development and other environmental protection activities

Source: Eurostat (online data code: env_ac_pepsgg)

eurostat 



Table 1: General government and non-profit institutions serving households_ output of environmental protection services, 2016 (EUR million)

Source: Eurostat ([env_ac_pepsgg](#))

The EU-28 production of environmental protection services by corporations as specialist producers amounted to EUR 147 billion in 2016. Table 2 highlights data on output of environmental protection services by the specialist producers across Member States broken down into wastewater management, waste management and protection and remediation of soil, groundwater and surface water. The largest share of production was observed for waste management services, that accounted for 60 % of total environmental protection output in EU-28.

Corporations as specialist producers: market output of environmental protection services, 2016
(EUR million)

	Wastewater management	Waste management	Protection and remediation of soil, groundwater and surface water	Total (*)
EU-28	46 242	88 664	5 947	147 160
Belgium	2 428	3 672	309	8 012
Bulgaria	49	180	2	234
Czechia	670	2 337	127	3 133
Denmark (*)	1 337	1 863	.	.
Germany (*)	13 014	20 422	688	34 124
Estonia	72	117	1	220
Ireland	97	605	2	704
Greece	2 640	0	0	2 640
Spain	1 858	5 915	244	8 544
France	4 026	14 571	838	20 375
Croatia	18	283	19	324
Italy	4 290	13 087	1 526	18 903
Latvia	85	155	4	244
Lithuania	57	303	0	361
Luxembourg	137	162	8	326
Hungary	139	636	3	784
Malta	15	45	0	60
Netherlands	766	4 202	390	5 687
Austria	838	2 357	932	6 646
Poland	2 000	3 426	9	5 525
Portugal	532	1 161	9	1 872
Romania	22	516	4	560
Slovenia	24	165	0	190
Slovakia	199	486	18	702
Finland	723	1 493	113	2 329
Sweden	600	2 822	157	3 579
United Kingdom	9 495	7 634	520	17 649
Norway	162	1 281	23	1 466
Switzerland	1 189	3 181	9	5 115
Turkey	2 274	2 535	163	5 185

Note: Data for EU-28 are estimated by Eurostat.

(*) Provisional

(*) Data for other environmental domains, if provided by reporting countries, are included

Source: Eurostat (online data code: env_ac_pepssp)

eurostat 



Table 2: Corporations as specialist producers_ market output of environmental protection services, 2016
(EUR million)

Source: Eurostat ([env_ac_pepssp](#))

The EU-28 ancillary output of environmental protection by corporations other than specialist or secondary producers, i.e. output produced for internal use to reduce their environmental impact, amounted to EUR 27 billion in 2016 and was more equally spread over various environmental domains. The "other domains", including protection of soil, protection of biodiversity, research and development, and education accounted for the largest share of total environmental protection output (29 %); the domain of protection of ambient air and climate accounted for 26 % and waste and wastewater management domains for 22 % each one. The shares vary across the EU (see Table 3).

Other corporations: ancillary output for environmental protection, 2016
(EUR million)

	Protection of ambient air and climate	Wastewater management	Waste management	Other domains	Total environmental protection
EU-28 (*)	7 056	6 106	6 061	7 952	27 175
Belgium	218	341	409	859	1 827
Bulgaria	61	48	49	51	208
Czechia	72	225	111	92	500
Denmark	28	27	19	31	105
Germany	3 269	1 536	1 047	142	5 993
Estonia	5	26	9	1	41
Ireland	0	0	0	0	1
Greece	2	3	6	1	12
Spain	233	284	163	94	774
France	602	571	438	2 419	4 030
Croatia	5	16	18	8	47
Italy	149	174	219	196	737
Latvia	1	2	0	4	7
Lithuania	1	3	1	5	10
Luxembourg	:	:	:	:	:
Hungary	11	27	38	31	107
Malta	0	0	0	0	0
Netherlands	:	:	:	147	:
Austria	269	197	285	740	1 491
Poland	245	615	351	279	1 489
Portugal	18	29	45	36	128
Romania	156	134	151	425	866
Slovenia	23	37	94	12	165
Slovakia	7	60	28	21	117
Finland	107	114	61	43	324
Sweden (*)	126	180	96	81	482
United Kingdom	317	254	297	111	978
Norway	39	30	23	53	145
Switzerland	117	74	195	520	907
Turkey	87	85	75	27	274

Note: Data for EU-28 are estimated by Eurostat.

(:) not available

(*) Data for protection of ambient air and climate are provisional

(*) The following environmental domains are included: protection and remediation of soil, groundwater and surface water; noise and vibration abatement; protection biodiversity and landscapes; protection against radiation, environmental research and development; other environmental protection activities

Source: Eurostat (online data code: env_ac_pepsnsp)

eurostat 



Table 3: Other corporations: ancillary output of environmental protection services, 2016
(EUR million)

Source: Eurostat ([env_ac_pepsnsp](#))

Source data for tables and graphs

-  [Environmental protection expenditure accounts: tables and figures](#)

Data sources

EPEA are a module of the European environmental economic accounts set out under [Regulation \(EU\) No 691/2011 on European environmental economic accounts](#). EPEA follow the international standards of the System of Environmental-Economic Accounting 2012 Central Framework (SEEA CF 2012), and are broadly compatible with the international System of National Accounts (SNA 2008) and its European version, the European System of National and Regional Accounts (ESA 2010). The EU Member States have a legal obligation to report EPEA data from 2017-onwards. Data for EFTA

countries, candidate countries and potential candidates are also collected and disseminated on Eurostat database.

This article is based on the results of the 2018 data collection and gives a comprehensive picture of EPEA since all Member States with reporting obligation (Cyprus was granted a derogation) submitted data for this second mandatory collection under EU Regulation on European environmental economic account (N° 691/2011). At the present stage of development, not all national totals comprehensively cover all types of activities and all environmental domains. In particular, for specialist producers, only the environmental activities of CEPA2, CEPA3 and CEPA4 are captured by the majority of responding countries.

Statistics on EPEA provide data on a wide range of important economic variables, such as gross fixed capital formation, output, final and intermediate consumption, exports and imports, taxes less subsidies, compensation of employees, consumption of fixed capital, employment, current and capital transfers and earmarked taxes (for financing environmental protection measures). The data are broken down by environmental domain and institutional sector.

The EU-28 figures presented in this article are estimated, aggregating the available data from the Member States. For all EPEA reporting items used for the calculation of NEEP, data gaps were filled by Eurostat's estimates. In addition, for the reference period not covered in the mandatory EPEA data reporting, early estimates were compiled at the EU level. Country EPEA data are compiled on the basis of the following sources: national accounts (supply and use tables), government finance statistics, structural business statistics, labour statistics and trade statistics. In many countries, results of statistical surveys, administrative sources and statistical estimations are also used for EPEA data compilation.

Sectors Institutional sectors are defined in SEEA CF 2012 and ESA 2010. EPEA use the following groupings of sectors: - Corporations as specialist producers of environmental protection services; - Other corporations (as ancillary producers); - General government and non-profit institutions serving households (NPISH); - Households (as consumers of environmental protection services); - Rest of the world (as beneficiary or origin of transfers for environmental protection).

The corporation sector covers all units classified in national accounts to sectors S.11 and S.12. The most important providers of environmental services are specialist producers, i.e. the units of the corporation sector whose principal activity is waste collection, treatment and disposal, sewerage, remediation activities and other waste management services, which are classified under NACE Rev. 2 Divisions 37, 39 and under NACE Rev2 Groups 38.1 and 38.2. The secondary output of environmental protection services is also captured in EPEA and included in the output of specialist producers. The corporations other than specialist producers which undertake environmental protection expenditure to 'green' the process of their production of non-environmental goods and services are also covered in EPEA, but under a separate sector grouping (as 'other'/ancillary producers).

Environmental domains The scope of EPEA is defined according to the classification of environmental protection activities (CEPA). Data are collected and disseminated using the following breakdown:

- CEPA 1 — Protection of ambient air and climate
- CEPA 2 — Wastewater management
- CEPA 3 — Waste management
- CEPA 4 — Protection and remediation of soil, groundwater and surface water
- CEPA 5 — Noise and vibration abatement
- CEPA 6 — Protection of biodiversity and landscapes
- CEPA 7 — Protection against radiation
- CEPA 8 — Environmental research and development
- CEPA 9 — Other environmental protection activities

CEPA is a recognised international standard included in the family of international economic and social classifications. It can be downloaded from the [Ramon](#) website.

Context

The increased awareness of the need to combat environmental pollution and preserve natural resources has led to an increase in the supply and demand of environmental goods and services, in

other words, products to prevent, measure, control, limit, minimise or correct environmental damage and resource depletion.

Statistics on environmental protection expenditure enable to identify and measure society's response to environmental concerns and how it is financed. Environmental protection expenditure accounts (EPEA) quantify the resources devoted to environmental protection by resident economic units. They thus report the effort made by society towards implementing the 'polluter pays principle'. Environmental protection expenditure accounts contribute directly to the EU's policy priorities on environmental protection, resource management and green growth by providing important information on the production and the use of environmental protection services.