

Environmental Protection Expenditure Accounts Characteristics

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Outline

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Overview of the EPEA framework

EPEA seeks to assess the actual expenditure on environmental protection incurred by the total economy, i.e. the economic resources actually used in order to prevent degradation or to restore the environment.



Overview of the EPEA framework

EPEA applies the principles, rules and classifications of national accounts. This includes the valuation concepts and the definitions of transactions and aggregates used in the national accounts

- Intermediate consumption
- Capital formation
- Grouping of institutional units into sectors

Overview of the EPEA framework

EPEA covers the following:

- a) Expenditure on environmental protection **products** by resident units
- b) Expenditure related to the **production** of environmental protection products, including the gross capital formation
- c) **Transactions** related to the financing of environmental protection expenditure




Overview of the EPEA framework

EPEA are also interested in the supply of those products. One identity from national accounts applicable to any product is the following:

Final consumption + Capital formation + Exports – Imports = Output – Intermediate consumption + VAT plus taxes less subsidies on products

Final consumption + Capital formation + Intermediate consumption = Output + Imports – Exports + VAT plus taxes less subsidies on products



This identity can be applied to any product, in particular to environmental protection services.

Overview of the EPEA framework

The left side is the sought sum of expenditure on environmental protection products by resident units.



The right side proposes an alternative calculation approach, which indeed **EPEA will follow** instead of the left side approach.

Reasons;

- Output is simpler to measure than final consumption, intermediate consumption and capital formation;
- Imports and exports are small;
- Output is also relevant by itself for analysis of production

Overview of the EPEA framework

Expenditure for the production of environmental protection services includes

- capital formation,
- intermediate consumption
- other forms of expenditure.

Besides expenditure, EPEA provides a **complete picture of production** of environmental production services as regards:

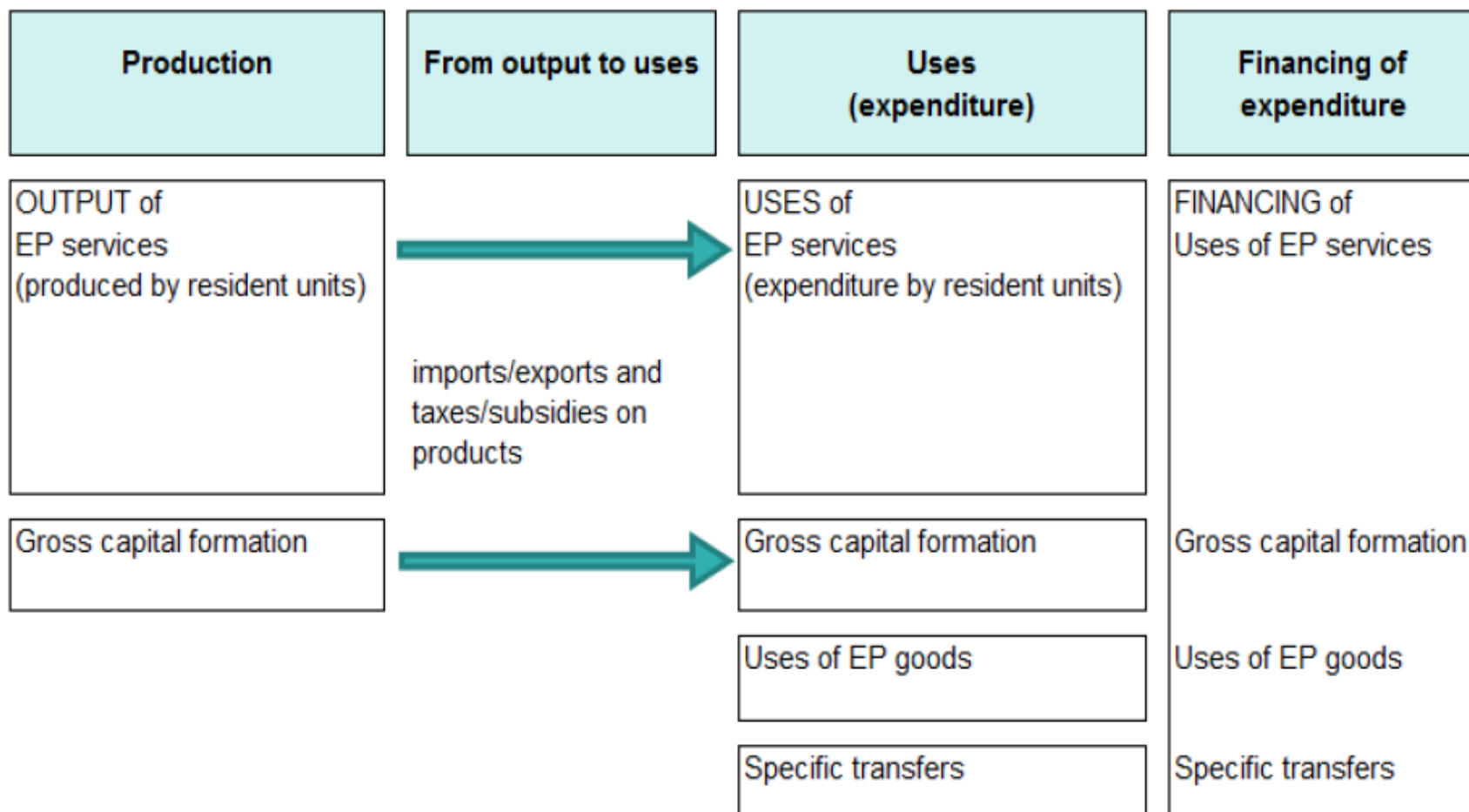
- output,
- salaries,
- profits,
- certain taxes on products,
- depreciation of the stock of assets,
- employment.

Overview of the EPEA framework


- It may be that the units effectively engaged in the expenditure in environmental protection (i.e., consuming or investing) are not the same as the units financing this expenditure.
- Only those transfers related to environmental protection that are not already reflected in the expenditure under other categories above need to be added, to prevent double counting.
- The most relevant environmental protection transfers are those with the rest of the world. The government sector plays a central role in the distribution of the transfers.



Overview of the EPEA framework



Overview of the EPEA framework

1		Output of EP services at basic prices
2	-	Intermediate consumption of EP services by producers of EP services
3	+	Imports of EP services
4	-	Exports of EP services
5	+	Items to adjust the valuation of EP services from basic price to purchaser's price
6	=	Supply of EP services available to resident units, at purchaser's prices
		
7	=	Uses of EP services by resident units at purchaser's prices (6=7)
8		of which final consumption
9	+	Gross fixed capital formation ⁽¹⁾ for production of EP services
10	+	Environmental protection transfers paid to the rest of the world
11	=	Expenditure for environmental protection by resident units
12	-	Environmental protection transfers received from the rest of the world
13	=	National Expenditure on Environmental Protection (NEEP)

EPEA characteristics

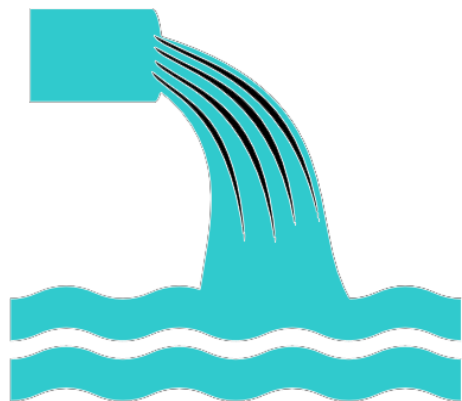
P1: output of EP services

- Output (P.1) is defined as the total of products created during the accounting period
- P1 in EPEA measures output of EP services. This is the sum of market output (including output for own final use), non-market output and ancillary output.
- It is worth noting that national accounts define ancillary activities but does not separately record their output. Instead, EPEA measure and separately record ancillary output.



EPEA characteristics

P11: market output of EP services



- Market output (P.11) consists of output that is disposed of on the market or intended to be disposed of on the market. It includes in particular products sold at economically significant prices, i.e., prices that have a substantial effect on the amounts of products that producers are willing to supply and on the amounts of products that purchasers wish to acquire.
- P11 is typically produced by market producers e.g. corporations operating for profit but it may also be secondary output from non-market producers e.g. units in the government sector.
- Market output is valued at basic prices.

EPEA characteristics

P13: non-market output of EP services

- Non-market output (P.13) is output provided to other units for free, or at prices that are not economically significant, i.e. prices that cover less than 50% of the production costs.
- P13 may be produced by non-market producers or by market producers (in the latter case it will not be the major part of their output).



P13 is subdivided into two items:

- “Payments for non-market output” (P.131), various fees and charges paid by the users,
- “Non-market output, other” (P.132) output provided for free.

EPEA characteristics

P13: non-market output of EP services

Non-market output is valued at the total costs of production, i.e. the sum of:

- Intermediate consumption;
- Compensation of employees;
- Consumption of fixed capital;
- Other taxes on production less other subsidies on production



EPEA characteristics

P1_ANC: ancillary EP output

- Ancillary output is the output of ancillary activities, i.e. Output intended for use for production activities within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out.
- Ancillary EP output includes the use of energy, material, maintenance and own personnel for socalled “in-house” measures to protect the environment.
- A large part of internal expenditure is related to operating environmental protection equipment.
- There are also other internal expenditure such as general administration, education, information, environmental management and certification, research and development.



EPEA characteristics

P2_EPS_SP: intermediate consumption of environmental protection services by specialist producers

- Intermediate consumption (P.2) consists of goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital.
- Intermediate consumption is to be valued at purchaser's prices.
- In EPEA, characteristic P2_EPS_SP consists of EP services consumed by specialist producers of EP services as inputs in the process of production of EP services. P2_EPS_SP is needed to prevent double counting in the calculation of national expenditure on environmental protection.

EPEA characteristics

P51G_NP: gross fixed capital formation and net acquisitions of non-produced non-financial assets for the production of environmental protection services

- Gross fixed capital formation (P.51g) consists of resident producers' acquisitions less disposals of fixed assets during a given period plus certain additions to the value of non-produced assets realized by the productive activity of producer or institutional units.
- Fixed assets are produced assets used in production for more than one year.
- Net acquisitions of non produced non-financial assets correspond to the acquisitions by resident producers, less disposals, of non-produced non-financial assets, i.e., assets that have not been produced within the production boundary and that may be used in the production of goods and services. The main example relevant for EPEA is land.

EPEA characteristics

P6: exports of environmental protection services

P7: imports of environmental protection services

In EPEA,

- P6 is the value of EP services produced in the national economy and sold to non-resident units
- P7 is the value of EP services produced in the rest of the world and purchased by resident units.



These characteristics mainly concern EP services in **CEPA 2, CEPA 3 and CEPA 4.**

EPEA characteristics

D21-D31: VAT and other taxes less subsidies on environmental protection services

D21

ESA 2010 defines taxes on products (D.21) as taxes that are payable per unit of a given good or service produced or transacted.

D31

ESA 2010 defines subsidies on products (D.31) as subsidies, i.e., current unrequited payments which general government make to resident producers, payable per unit of a good or service produced or imported.



D21 - D31

EPEA characteristics

SUP_NU: environmental protection services supply at purchaser's price available to resident users

output (P1)

+

imports (P7),

-

exports (P6)

+

VAT and other taxes less subsidies on products (D21-D31)

-

intermediate consumption of EP services by specialist producers
(P2_EPS_SP)

EPEA characteristics

P3_EPS: final consumption of environmental protection services

According to ESA 2010 final consumption expenditure (P.3) consists of expenditure incurred by resident institutional units on goods or services that are **used for the direct satisfaction** of individual needs or wants or the collective needs of members of the community.

Final consumption expenditure of EP services by general government and NPISH is equal to the value of their **non-market output less payments for non-market output**.

EPEA characteristics

Transfers

- D3_D7_D92_D99_PAY_GG: general government: transfers paid
- D3_D7_D92_D99_REC_GG: general government: transfers received from the rest of the world
- D3_D7_D92_D99_REC_CORP: corporations: transfers received from general government and the rest of the world
- D3_D7_D92_D99_REC_HH: households: transfers received from general government and the rest of the world
- D3_D7_D92_D99_PAY_RW: rest of the world: transfers paid
- D3_D7_D92_D99_REC_RW: rest of the world: transfers received from general government

EPEA characteristics

P2_EPS: intermediate consumption of environmental protection services for the production of environmental protection services

P2_EPS is the value of all EP services consumed as inputs for the production of EP services.

P2_NEPS: intermediate consumption (excluding environmental protection services) for the production of environmental protection services

P2_NEPS is the value of products, excepted EP services, consumed as inputs for the production of EP services. This characteristic is asked for all categories of producers of EP services.

D1: compensation of employees for the production of environmental protection services

[illegible]

EPEA characteristics

D29-D39: other taxes less subsidies on production for the production of environmental protection services

ESA 2010 defines **other taxes on production** (D.29) as all taxes that producers incur as a result of engaging in production, independently of the quantity or value of the goods and services produced or sold.

Other subsidies on production (D.39) are subsidies, except subsidies on products, which resident producer units may receive as a consequence of engaging in production.



EPEA characteristics

P51C: consumption of fixed capital of producers of environmental protection services

According to ESA 2010 consumption of fixed capital (P.51C) is the decline in value of fixed assets owned as a result of normal wear and tear and obsolescence.

The estimate of decline in value includes a provision for losses of fixed assets as a result of accidental damage which can be insured against.

EPEA characteristics

B2N: net operating surplus of producers of environmental protection services

In EPEA this characteristic is calculated as $P1 + RNO - P2 - D1 - P51C - (D29 - D39)$.

As non-market output and ancillary output are valued at the total costs of production for these categories of output the net operating surplus is zero.

EPEA characteristics

P11_MA: market output of EP services (from principal activity)

P11_SA: market output of EP services (from secondary activities)

These characteristics correspond respectively:

- to the value of output of EP services produced by **specialist producers** in the corporations sector, i.e. those market producers whose principal activity is the production of EP services;
- to the value of output of EP services produced as secondary output by **non specialist producers** in the corporations sector, i.e. those market producers whose principal activity is not the production of EP services.

EPEA characteristics

RNO: related non-EP output (formerly receipts from by-products)

The production of EP services may generate output of related goods and services different from EP products e.g. energy produced by waste incineration plants.

For conceptual completeness, EPEA collects this variable although it is not expected to be big and it may be negligible in certain cases.

EPEA characteristics

EMP: employment (full time equivalents) of producers of EP services

This characteristic is the total employment engaged in the production of EP services.

It is measured in full time equivalents; it comprises employees and self-employed.

The full-time equivalents is the number of full-time equivalent jobs, defined as total hours worked divided by average annual hours worked in full-time jobs.

EPEA characteristics

INV_EOP: GFCF on specific EP fixed assets (formerly end-of-pipe technologies)

INV_IT: GFCF on cleaner EP fixed assets (formerly integrated technologies)

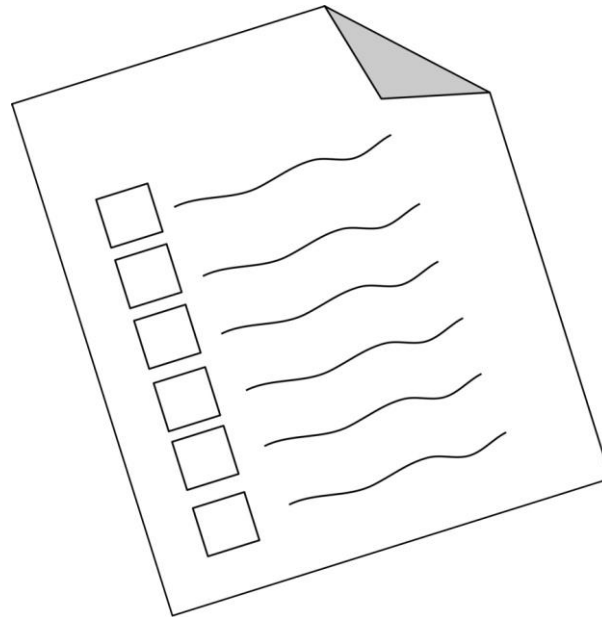
GFCF on specific EP fixed assets are methods, technologies, processes or equipment designed to collect and remove pollution and pollutants after their creation, prevent the spread of and measure the level of the pollution, and treat and dispose of pollutants generated by the operating activity of the company.

GFCF on cleaner EP fixed assets are new or adaptation of existing methods, technologies, processes, equipment designed to prevent or reduce the amount of pollution created at the source, thereby reducing the environmental impacts associated with the release of pollutants and/or with polluting activities.

Eurostat EPEA Questionnaire

Eurostat has defined, the EPEA questionnaire implementing Regulation (EU) No 691/2011, Annex IV.

In technical terms the questionnaire is a set of spreadsheets in a workbook. The questionnaire consists of 7 tables, some of them with subtables,



Eurostat EPEA Questionnaire

Spreadsheet name	Description
1 – General Government and NPISH	Output of EP services and GFCF and net acquisitions of non-produced non-financial assets for environmental protection activities (P51G_NP) by general government and NPISH units
2 – Corporations as market producers of EP services	Output of market EP services and P51G_NP by corporations units (specialist and secondary producers)
3 – Corporations other	Output of EP services and corresponding P51G_NP by corporations units as ancillary producers
3a, 3b, 3b_Add, 3c, 3d and 3e –Corporations other	Breakdown of Table 3 for NACE B, C, D, E36 and other NACE; Table 3b_Add breaks down Table 3b for NACE C divisions
4 –Total supply	Summary of EP services output, imports and exports of EP services; calculation of EP services at purchasers' prices available for national uses
5 - Households	Final consumption of EP services by households
6 - Transfers	Transfers for environmental protection received and paid by the units of the various institutional sectors
7.1 – Total economy by CEPA	Summary of transactions related to EP services for the various CEPA classes
7.2 – Total CEPA by sectors	Summary of transactions related to EP services for the various sectors of the economy and the rest of the world
7.3 – Total economy total CEPA	National expenditure for environmental protection

Eurostat EPEA Questionnaire

sheet/table	1	2	3	4	5	6	7.1	7.2
Sector	General government	Corporations as EPS market producers	Corporations: other (also covering producers of ancillary EPS)	Total supply	Households	(transfers)	Total economy	General government, Corporations, Households, Rest of the world
CEPA	2, 3, 6, sum (1,4,5,7), sum (8,9)	2, 3, 4	1, 2, 3, sum (4,5,6,7,8,9)	2, 3, sum (1,4,5,6,7,8,9)	2, 3	2, 3, 6, sum (1,4,5,7), sum (8,9)	2, 3, sum (1,4,5,6,7,8,9), Total	Total CEPA
(P1) EP output	X							
(P11) EP market output	X	X						
(P13) EP non-market output	X							
(P1_ANC) ancillary EP output legally acceptable			X					
(P7) Imports of EP services				X				
(P6) Exports of EP services				X				
(D21-D31) VAT and other taxes less subsidies on EP services				X				
(P2_EPS_SP) Intermediate consumption of EP services by specialist producers *)		X		X				
(SUP_NU) EP services supply at purchasers' prices available for national uses								
(P51G_NP) Gross fixed capital formation **)	X	X	X					
(P3_EPS) Final consumption of EP services	X				X			
(D3_D7_D92_D99_PAY_GG) General government: total transfers paid						X		
(D3_D7_D92_D99_REC_GG) General government: transfers received from RW ***)						X		
(D3_D7_D92_D99_REC_CORP) Corp.: transfers received from GG and RW ***)						X		
(D3_D7_D92_D99_REC_HH) Households: transfers received from GG and RW ***)						X		
(D3_D7_D92_D99_REC_RW) Rest of the world: transfers received from GG ***)						X		
(D3_D7_D92_D99_REC_RW) Rest of the world: transfers received from GG ***)						X		
(D3_D7_D92_D99_PAY) Current and capital transfers paid								
(D3_D7_D92_D99_REC) Current and capital transfers received								

X in

Not applicable

Automatically calculated

Təşəkkür edirəm