

The following is an abridged explanation of the characteristics published in the datasets. A complete methodological explanation can be found in the EPEA guidelines (to be published soon), ESA2010, SEEA CF 2012 (chapter 4):

## I. PRODUCTION OF EP SERVICES AND RELATED INCOME GENERATION

Output (market, non-market, ancillary) of EP services: Output is defined in ESA 2010 as the total of products created during the year. Output in EPEA is the sum of EP market output, EP non-market output and EP ancillary output. Market output is the output disposed of on the market or intended to be disposed of on the market. Non-market output is provided to other units for free, or at prices that are not economically significant. Ancillary output is intended for use for production activities within an enterprise.

Output (of EP services) from the primary/secondary activity: production units may perform environmental protection activities either as principal, secondary or as ancillary activities. The principal activity is the activity for which the value added exceeds that of any other activity. A secondary activity is carried out in addition to the principal activity. An ancillary activity is an activity whose output is intended for use within an enterprise. National accounts defines ancillary activities but does not measure their output. Instead, EPEA distinguishes and measures two types of ancillary output:

EP ancillary output called “legally acceptable valuation” is measured as the sum of the components “compensation of employees” and “intermediate consumption” for the environmental protection ancillary activity.

EP ancillary output called “ESA-compatible output” is measured as the sum of detailed costs of production (intermediate consumption excluding intermediate consumption of EPS, compensation of employees, consumption of fixed capital, other taxes less subsidies on production). It is a more comprehensive but more demanding measure than the legally acceptable valuation.

Intermediate consumption of EP services for production of EP services: intermediate consumption is defined in ESA 2010 as the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. These goods and services are either transformed or used up by the production process. More in particular, intermediate consumption for production of EP services consists of products consumed as inputs by a process of production of EP services, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The products consumed can be EP services and other products than EP services, thus this item is the sum of two components: intermediate consumption of EP services (for production of EP services) and intermediate consumption (for production of EP services) excluding EP services.

Taxes less subsidies (on EP services): these are taxes that affect the price of EP services. ESA 2010 distinguishes between taxes on EP products and other taxes on production of EP services (this distinction also exists for subsidies). Taxes on products as taxes that are payable per unit of a given good or service produced or transacted. They include in particular a value added type taxes (VAT). Correspondingly, subsidies on products are current unrequited payments payable per unit of a good or service produced or imported. EPEA records the taxes less subsidies on products payable or receivable on EP services. Other taxes on production

are all taxes that enterprises incur as a result of engaging in production, independent of the quality or value of the goods and services produced or sold. Examples are taxes on ownership of land, use of fixed assets, payroll taxes, etc. Other subsidies on production are subsidies except subsidies on products that producer units may receive as a consequence of engaging in production.

Compensation of employees (in the production of EP services): it is defined in ESA 2010 as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during a year.

In-house current expenditure (also called internal current expenditure): it includes all current expenditure on environmental protection except purchases of EP services from other units. It is the sum of labour costs, use of raw materials and consumables including energy costs and payments for operational leasing, for example related to: operation and maintenance of environmental equipment, measurement and monitoring of pollution levels, environmental management, information and education, environmental research and development.

Consumption of fixed capital: this is the decline in value of fixed assets owned as a result of normal wear and tear and obsolescence. The characteristic in EPEA is the consumption of fixed capital of the fixed assets engaged in the production of EP services.

Net operating surplus: it represents what remains from the value of output when all other production costs are deducted. The net operating surplus from market activities is calculated as output plus revenues from by-products minus intermediate consumption minus consumption of fixed capital minus other taxes less subsidies on production. The net operating surplus from non-market activities and ancillary activities is zero by convention.

Receipts from by-products: this is the receipts related to by-products generated during the production of environmental protection services. By-products are those products whose production cannot be separated – because it is technically linked - from the exercise of environmental protection activities. Examples of by-products include energy generated or material recovered, as a result of waste treatment, sludge from waste water management.

Labour inputs: this is the employment in environmental protection services, measured in full-time equivalents.

## II. ACQUISITION OF ASSETS FOR THE PRODUCTION OF EP SERVICES

Gross fixed capital formation (GFCF) and net acquisition of non-financial, non-produced assets: GFCF are the acquisitions less disposals of fixed assets for environmental protection activities. Fixed assets are produced assets used in production for more than one year. Non-financial, non-produced assets are typically natural resources (land, mineral and energy reserves, water, etc.) and they recorded separately from GFCF.

Pollution treatment investment (also called end-of-pipe investment): this is capital expenditures in methods, technologies, processes or equipment 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. Only ancillary producers may incur in this type of investment.

Pollution prevention investment (also called investment in integrated technologies): This is capital expenditures for new or adaptation of existing methods, technologies, processes, equipment designed to prevent or reduce the amount of pollution created at the source. Only ancillary producers may incur in this type of investment.

### III. NATIONAL USES OF EP SERVICES AND ADAPTED GOODS

Intermediate consumption of EP services for production of EP services and for other production: It includes intermediate consumption by producers of EP services and by other producers. It is important to distinguish this variable from intermediate consumption of EP services for production of EP services.

Moreover the breakdown by CEPA classes of those two variables has different meaning. Intermediate consumption of EP services for production of EP services by CEPA is seen from the perspective of producing EP services. For example, the CEPA 2 breakdown is the intermediate consumption of all EP services (CEPA 1, CEPA 2...CEPA 9) for the production of CEPA 2 services. Instead the intermediate consumption of EP services for production of EP services and for other production by CEPA is seen from the perspective of using EP services. For example, the CEPA 2 breakdown is the intermediate consumption of CEPA 2 services for the production of all EP services and for other production.

Final consumption (of EP services): According to ESA 2010, it 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. Sectors incurring in final consumption are households and General government and non-profit institutions service households.

### IV. INTERNATIONAL TRADE IN EP SERVICES

Exports and imports (of EP services): ESA 2010 defines exports and imports respectively as transactions in goods and services (sales, barter, and gifts) from residents to non-residents and of transactions in goods and services (purchases, barter, and gifts) from non-residents to residents.

### V. TRANSFERS FOR ENVIRONMENTAL PROTECTION

Current and capital transfers (of EP services): environmental protection transfers are all current or capital transfers intended to support environmental protection activities and actions. A transfer is defined as a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as a direct counterpart. This definition covers a large number of transactions. ESA 2010 distinguishes two types of transfers, as follows: 1) Current transfers: they directly affect the level of disposable income and are all transfers that are not transfers of capital; they consist of subsidies, social contributions and benefits and other current transfers. 2) Capital transfers: they are transfers linked to the acquisition (or disposal) of fixed assets and they can be in cash or in kind; they include investment grants (i.e., to finance the costs of acquiring fixed assets) and other capital transfers.

Earmarked taxes: some taxes which affect the acquisition price of EP SERVICES (e.g. taxes on waste disposal at landfills) are “earmarked” for environmental protection, i.e. they are used e.g. to pay subsidies on environmental protection services or investment grants for environmental protection capital formation. These taxes are considered as environmental transfers paid by the users of the environmental protection services (households or corporations) to the general government.

## VI. OTHER CHARACTERISTICS

Supply at purchasers' prices available for national uses: this is the sum of output at basic prices (not including ancillary environmental protection services), imports and VAT and other taxes less subsidies on products. It equals total uses: intermediate consumption of market environmental protection services plus final consumption of general government plus final consumption of households plus exports.