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► **B** REGULATION (EU) No 691/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 6 July 2011

on European environmental economic accounts

(Text with EEA relevance)

(OJ L 192, 22.7.2011, p. 1)

Amended by:

		Official Journal		
		No	page	date
► <u>M1</u>	Regulation (EU) No 538/2014 of the European Parliament and of the Council of 16 April 2014	L 158	113	27.5.2014



**REGULATION (EU) No 691/2011 OF THE EUROPEAN
PARLIAMENT AND OF THE COUNCIL**

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(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE
EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union,
and in particular Article 338(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Acting in accordance with the ordinary legislative procedure ⁽¹⁾,

Whereas:

- (1) Article 3(3) of the Treaty on European Union provides, inter alia, that the Union ‘shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment’.
- (2) Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme ⁽²⁾ confirmed that sound information on the state of the environment, and on the key trends, pressures and drivers for environmental change, is essential for the development of effective policy, its implementation, and the empowerment of citizens more generally. Instruments should be developed with a view to enhancing public awareness of the environmental effects of economic activity.
- (3) A scientifically sound approach to measuring the shortage of resources will, in the future, be crucial to the sustainable development of the Union.
- (4) Decision No 1578/2007/EC of the European Parliament and of the Council of 11 December 2007 on the Community Statistical Programme 2008 to 2012 ⁽³⁾ refers clearly to the need for high-quality statistics and accounts in the domain of the environment. Furthermore, under the main initiatives for 2008 to 2012 it states that legal bases should be developed, where appropriate, for core areas of environmental data collection currently not covered by legal acts.

⁽¹⁾ Position of the European Parliament of 7 June 2011 (not yet published in the Official Journal) and decision of the Council of 21 June 2011.

⁽²⁾ OJ L 242, 10.9.2002, p. 1.

⁽³⁾ OJ L 344, 28.12.2007, p. 15.

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- (5) In its Communication of 20 August 2009 entitled ‘GDP and beyond: Measuring progress in a changing world’, the Commission recognised the need to supplement existing indicators with data that incorporate environmental and social aspects in order to allow more coherent and comprehensive policy making. To that end, environmental economic accounts offer a means of monitoring the pressures exerted by the economy on the environment and of exploring how these might be abated. Environmental economic accounts show the interaction between economic, household and environmental factors and consequently are more informative than national accounts alone. They provide a significant source of data for environmental decisions and the Commission should consult them when drawing up impact assessments. In line with the tenets of sustainable development and the drive to achieve a resource-efficient and low-pollution economy, embedded in the Europe 2020 Strategy and various major initiatives, developing a data framework that consistently includes environmental issues along with economic ones becomes all the more imperative.
- (6) The European System of Accounts (ESA), set up by Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community⁽¹⁾ (ESA 95), consistent with the System of National Accounts (SNA), adopted by the United Nations Statistical Commission in February 1993, is the main tool behind the Union’s economic statistics as well as many economic indicators (including GDP). The ESA framework can be used to analyse and evaluate various aspects of the economy (e.g. its structure, specific parts, development over time) yet for some specific data needs, such as analysis of the interaction between the environment and the economy, the best solution is to draw up separate satellite accounts.
- (7) In its June 2006 conclusions, the European Council called on the Union and its Member States to extend the national accounts to key aspects of sustainable development. National accounts should therefore be supplemented with integrated environmental economic accounts providing data that are fully consistent.
- (8) It is of great importance that, as soon as the system is fully operational, European environmental economic accounts be actively and accurately used in all Member States and in all relevant Union policy making as a key input to impact assessments, action plans, legislative proposals and other significant results of the policy process.
- (9) More timely data could also be produced by now-casting, which uses statistical techniques similar to those used in forecasting to make reliable estimates.

⁽¹⁾ OJ L 310, 30.11.1996, p. 1.

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- (10) Satellite accounts allow the analytical capacity of national accounting to be expanded for selected areas of social concern, such as pressures on the environment stemming from human activity, in a flexible manner, without overburdening or disrupting the central system. Satellite accounts should be made available to the public regularly and in comprehensible form.
- (11) The system of integrated environmental economic accounts (SEEA), developed collectively by the United Nations, the European Commission, the International Monetary Fund, the Organisation for Economic Cooperation and Development and the World Bank, is a satellite system of the SNA. It brings together economic and environmental information in a common framework to measure the contribution of the environment to the economy and the impact of the economy on the environment. It provides policy-makers with indicators and descriptive statistics to monitor these interactions as well as a database for strategic planning and policy analysis to identify more sustainable paths of development.
- (12) The SEEA synthesises and integrates as far as possible the different categories of environmental economic accounts. In general, all these categories broaden the existing SNA concepts of cost, capital formation and stock of capital by supplementing them with additional data in physical terms in order to encompass environmental cost and the use of natural assets in production, or by amending them through the incorporation of these effects in monetary terms. Within this general orientation, the several existing categories differ considerably in terms of methodology and the environmental concerns addressed.
- (13) The Commission presented its first strategy on ‘green accounting’ in 1994. Since then the Commission (Eurostat) and the Member States have developed and tested accounting methods to the point where several Member States now regularly provide first sets of environmental economic accounts. Most common are physical flow accounts on air emissions (including greenhouse gases) and on material consumption, and monetary accounts on environmental protection expenditure and on environmental taxes.
- (14) One of the objectives for the period covered by the Community Statistical Programme 2008 to 2012 is to take initiatives to replace agreements with Union legislation in certain areas in which European statistics are regularly produced and have reached sufficient maturity.
- (15) Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European Statistics ⁽¹⁾ provides a reference framework for European environmental economic accounts. In particular, it requires European statistics to comply with principles of professional independence, impartiality, objectivity, reliability, statistical confidentiality and cost effectiveness.

⁽¹⁾ OJ L 87, 31.3.2009, p. 164.

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- (16) As the different sets of environmental economic accounts are under development and at different stages of maturity, a modular structure providing adequate flexibility, allowing, inter alia, for the introduction of additional modules, should be adopted.
- (17) A programme of pilot studies should be established to improve reporting and data quality, enhance methodologies and prepare for further developments.
- (18) The introduction of additional reporting requirements should be preceded by a feasibility assessment.
- (19) The Commission should be entitled to grant derogations to Member States during the transitional periods in so far as major adaptations to their national statistical systems are required.
- (20) The Union should encourage the introduction of environmental economic accounts in third countries, particularly in those that share environmental resources (mainly water) with Member States.
- (21) Since the objective of this Regulation, namely the establishment of a common framework for the collection, compilation, transmission and evaluation of European environmental economic accounts, cannot be sufficiently achieved by the Member States and can therefore be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective.
- (22) The power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission for the purpose of adjusting the modules to environmental, economic and technical developments, as well as providing methodological guidance. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level. The Commission, when preparing and drawing up delegated acts, should ensure a simultaneous, timely and appropriate transmission of relevant documents to the European Parliament and Council.
- (23) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers⁽¹⁾.

⁽¹⁾ OJ L 55, 28.2.2011, p. 13.

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(24) The European Statistical System Committee has been consulted,

HAVE ADOPTED THIS REGULATION:

*Article 1***Subject matter**

This Regulation establishes a common framework for the collection, compilation, transmission and evaluation of European environmental economic accounts, for the purpose of setting up environmental economic accounts as satellite accounts to ESA 95, by providing methodology, common standards, definitions, classifications and accounting rules intended to be used for compiling environmental economic accounts.

*Article 2***Definitions**

For the purposes of this Regulation the following definitions shall apply:

- (1) ‘air emission’ means the physical flow of gaseous or particulate materials from the national economy (production or consumption processes) to the atmosphere (as part of the environmental system);
- (2) ‘environmentally related tax’ means a tax whose tax base is a physical unit (or a proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified in ESA 95 as a tax;
- (3) ‘economy-wide material flow accounts (EW-MFA)’ means consistent compilations of the material inputs into national economies, the changes of material stock within the economy and the material outputs to other economies or to the environment;

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- (4) ‘environmental protection expenditure’ means the economic resources devoted by resident units to environmental protection. Environmental protection includes all activities and actions which have as their main purpose the prevention, reduction and elimination of pollution and of any other degradation of the environment. Those activities and actions include all measures taken in order to restore the environment after it has been degraded. Activities which, while beneficial to the environment, primarily satisfy the technical needs or the internal requirements for hygiene or safety and security of an enterprise or other institution are excluded from this definition;
- (5) ‘environmental goods and services sector’ means the production activities of a national economy that generate environmental products (environmental goods and services). Environmental products are products that have been produced for the purpose of environmental protection, as referred to in point (4), and resource management. Resource management includes the preservation, maintenance and enhancement of the stock of natural resources and therefore the safeguarding of those resources against depletion;

▼ M1

- (6) ‘physical energy flow accounts’ means consistent compilations of the physical energy flows into national economies, the flows circulating within the economy and the outputs to other economies or to the environment.

▼ B*Article 3***Modules**

1. The environmental economic accounts to be compiled within the common framework referred to in Article 1 shall be grouped in the following modules:

- (a) a module for air emissions accounts, as set out in Annex I;
- (b) a module for environmentally related taxes by economic activity, as set out in Annex II;
- (c) a module for economy-wide material flow accounts, as set out in Annex III;

▼ M1

- (d) a module for environmental protection expenditure accounts, as set out in Annex IV;
- (e) a module for environmental goods and services sector accounts, as set out in Annex V;
- (f) a module for physical energy flow accounts, as set out in Annex VI.

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2. Each Annex shall contain the following information:

- (a) the objectives for which the accounts are to be compiled;
- (b) the coverage of the accounts;
- (c) the list of characteristics for which data are to be compiled and transmitted;
- (d) the first reference year, frequency and transmission deadlines for the compilation of the accounts;
- (e) the reporting tables;
- (f) the maximum duration of the transitional periods referred to in Article 8 during which the Commission may grant derogations.

3. The Commission shall be empowered to adopt delegated acts, where necessary to take account of environmental, economic and technical developments, in accordance with Article 9:

- (a) to provide methodological guidance; and
- (b) to update the Annexes referred to in paragraph 1 as regards the information referred to in paragraph 2(c) to (e).

In exercising its power pursuant to this paragraph, the Commission shall ensure that its delegated acts do not impose significant additional administrative burdens on the Member States and on the respondent units.

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4. The Commission shall be empowered to adopt delegated acts in accordance with Article 9 in order to specify the energy products referred to in Section 3 of Annex VI, based on the lists set out in the Annexes to Regulation (EC) No 1099/2008 of the European Parliament and of the Council ⁽¹⁾.

Such delegated acts shall not impose a significant additional burden on the Member States or on the respondents. When establishing and subsequently updating the lists referred to in the first subparagraph, the Commission shall duly justify the actions, using, where appropriate, input from relevant experts on a cost-effectiveness analysis, including an assessment of the burden on respondents and of the production costs.

5. In order to facilitate a uniform application of Annex V, the Commission shall, by 31 December 2015, by means of implementing acts, establish an indicative compendium of environmental goods and services and of the economic activities to be covered by Annex V based on the following categories: environmental specific services, environmental sole purpose products (connected products), adapted goods and environmental technologies. The Commission shall update the compendium where necessary.

The implementing acts referred to in the first subparagraph shall be adopted in accordance with the examination procedure referred to in Article 11(2).

▼ B*Article 4***Pilot studies**

1. The Commission shall draw up a programme for pilot studies to be carried out by Member States on a voluntary basis in order to develop reporting and improve data quality, establish long time series and develop methodology. The programme shall include pilot studies to test the feasibility of introducing new environmental economic account modules. In drawing up the programme, the Commission shall ensure that no additional administrative or financial burdens are placed on the Member States and on the respondent units.

2. The findings of the pilot studies shall be evaluated and published by the Commission, taking into account the benefits of the availability of the data in relation to the cost of collection and the administrative burden of responding. These findings shall be taken into account in the proposals for introducing new environmental economic account modules that the Commission may include in the report referred to in Article 10.

*Article 5***Data collection**

1. In accordance with the Annexes to this Regulation, Member States shall collect the necessary data for the observation of the characteristics referred to in Article 3(2)(c).

⁽¹⁾ Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics (OJ L 304, 14.11.2008, p. 1).

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2. Member States shall collect the necessary data using a combination of the different sources specified below and applying the principle of administrative simplification:

- (a) surveys;
- (b) statistical estimation procedures in cases where some of the characteristics have not been observed for all of the units;
- (c) administrative sources.

3. Member States shall inform the Commission and shall provide details concerning the methods and sources used.

*Article 6***Transmission to the Commission (Eurostat)**

1. Member States shall transmit to the Commission (Eurostat) the data set out in the Annexes, including the confidential data, within the time limits specified therein.

2. The data shall be transmitted in an appropriate technical format, which is to be laid down by the Commission by means of implementing acts. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 11(2).

*Article 7***Quality assessment**

1. For the purposes of this Regulation, the quality criteria as referred to in Article 12(1) of Regulation (EC) No 223/2009 shall apply to the data to be transmitted.

2. Member States shall provide the Commission (Eurostat) with a report on the quality of the data transmitted.

3. In applying the quality criteria, referred to in paragraph 1, to the data covered by this Regulation, the Commission shall adopt implementing acts with a view to defining the modalities, structure and periodicity of the quality reports. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 11(2).

4. The Commission (Eurostat) shall assess the quality of the data transmitted and may, within 1 month of receipt of the data, request the Member State in question to submit additional information regarding the data or a revised dataset, as appropriate.

*Article 8***Derogations**

1. The Commission may adopt implementing acts with a view to granting derogations to Member States during the transitional periods referred to in the Annexes in so far as the national statistical systems require major adaptations. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 11(2).

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2. For the purposes of obtaining a derogation under paragraph 1 for Annexes I, II and III, the Member State concerned shall present a duly justified request to the Commission by 12 November 2011. For the purposes of obtaining a derogation under paragraph 1 for Annexes IV, V and VI, the Member State concerned shall present a duly justified request to the Commission by 17 September 2014.

▼ B*Article 9***Exercise of the delegation**

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

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2. The power to adopt delegated acts referred to in Article 3(3) and (4) shall be conferred on the Commission for a period of five years from 11 August 2011. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the 5-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred to in Article 3(3) and (4) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

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4. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

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5. A delegated act adopted pursuant to Article 3(3) and (4) shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or the Council.

▼ B*Article 10***Report and review**

By 31 December 2013 and every 3 years thereafter, the Commission shall submit a report on the implementation of this Regulation to the European Parliament and the Council. That report shall evaluate in particular the quality of the data transmitted, the data collection methods, the administrative burden on the Member States and on the respondent units, as well as the feasibility and effectiveness of those statistics.

The report shall, if appropriate and taking into account the findings referred to in Article 4(2), be accompanied by proposals:

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- for introducing new environmental economic account modules, such as Environmental Protection Expenditure and Revenues (EPER)/Environmental Protection Expenditure Accounts (EPEA), Environmental Goods and Services Sector (EGSS), Energy Accounts, Environmentally Related Transfers (subsidies), Resource Use and Management Expenditure Accounts (RUMEA), Water Accounts (quantitative and qualitative), Waste Accounts, Forest Accounts, Ecosystem services Accounts, Economy-Wide Material Stock Accounts (EW-MSA) and the measurement of unused excavated earthen materials (including soil),
- designed to further improve data quality and data collection methods, thereby improving the coverage and comparability of data and reducing the administrative burden on business and administration.

*Article 11***Committee**

1. The Commission shall be assisted by the European Statistical System Committee established by Regulation (EC) No 223/2009. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

*Article 12***Entry into force**

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.



ANNEX I

MODULE FOR AIR EMISSIONS ACCOUNTS

Section 1

OBJECTIVES

Air emissions accounts record and present data on air emissions in a way that is compatible with the system of national accounts. They record national economies' emissions to air in a breakdown by emitting economic activity as delineated in ESA 95. Economic activities comprise production and consumption.

This Annex defines the data to be collected, compiled, transmitted and evaluated for air emissions accounts by the Member States. Those data will be developed in a way that links emissions to economic production and consumption activities by industries and households. The direct emissions data reported under this Regulation will be combined with the economic input-output tables, supply and use tables and household consumption data that are already reported to the Commission (Eurostat) as part of ESA 95 reporting.

Section 2

COVERAGE

Air emissions accounts have the same system boundaries as ESA 95 and are also based on the residence principle.

In accordance with ESA 95, the concept of residence is based on the following principle: a unit is said to be a resident unit of a country when it has a centre of economic interest in the economic territory of that country, that is, when it engages for an extended period (1 year or more) in economic activities in that territory.

Air emissions accounts record emissions arising from the activities of all resident units, regardless of where these emissions actually occur geographically.

Air emissions accounts record the flows of residual gaseous and particulate materials originating from the national economy and flowing into the atmosphere. For the purpose of this Regulation, the term 'atmosphere' refers to a component of the environmental system. The system boundary relates to the borderline between the national economy (as part of the economic system) and the atmosphere (as part of the environmental system). After having crossed the system boundary, the emitted substances are out of any human control and become part of natural materials cycles and may induce several types of environmental impacts.

Section 3

LIST OF CHARACTERISTICS

Member States shall produce statistics on the emissions of the following air pollutants:

Name of air emission	Symbol of air emission	Reporting unit
Carbon dioxide without emissions from biomass	CO ₂	1 000 tonnes (Gg)
Carbon dioxide from biomass	Biomass CO ₂	1 000 tonnes (Gg)

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Name of air emission	Symbol of air emission	Reporting unit
Nitrous oxide	N ₂ O	tonnes (Mg)
Methane	CH ₄	tonnes (Mg)
Perfluorocarbons	PFCs	tonnes (Mg) CO ₂ -equivalents
Hydrofluorocarbons	HFCs	tonnes (Mg) CO ₂ -equivalents
Sulphur hexafluoride	SF ₆	tonnes (Mg) CO ₂ -equivalents
Nitrogen oxides	NO _x	tonnes (Mg) NO ₂ -equivalents
Non-methane volatile organic compounds	NMVOCs	tonnes (Mg)
Carbon monoxide	CO	tonnes (Mg)
Particulate matter < 10 µm	PM ₁₀	tonnes (Mg)
Particulate matter < 2,5 µm	PM _{2,5}	tonnes (Mg)
Sulphur dioxide	SO ₂	tonnes (Mg)
Ammonia	NH ₃	tonnes (Mg)

All data shall be reported to one decimal place.

Section 4**FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION DEADLINES**

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 21 months of the end of the reference year.
3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-27 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is the year in which this Regulation enters into force.
5. In the first data transmission, Member States shall include annual data from 2008 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years n-4, n-3, n-2, n-1 and n, where n is the reference year.

Section 5**REPORTING TABLES**

1. For each of the characteristics referred to in Section 3, data shall be produced by a hierarchical classification of economic activities, NACE Rev.2 (A*64 aggregation level), fully compatible with ESA 95. In addition, data shall be produced for:

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- household air emissions,
- bridging items, by which is meant reporting items which clearly reconcile the differences between the air emissions accounts reported under this Regulation and those data reported in official national air emission inventories.

2. The hierarchical classification referred to in paragraph 1 is as follows:

Air emissions by industry — NACE Rev.2 (A*64)

Household air emissions

- Transport
 - Heating/cooling
 - Other
-

Bridging items

Total air emission accounts (industry + households)

Less national residents abroad

- National fishing vessels operating abroad
- Land transport
- Water transport
- Air transport

Plus non-residents on the territory

- + Land transport
- + Water transport
- + Air transport

(+ or –) Other adjustments and statistical discrepancies

= Total emissions of pollutant X as reported to UNFCCC ⁽¹⁾/CLRTAP ⁽²⁾

⁽¹⁾ United Nations Framework Convention on Climate Change.

⁽²⁾ Convention on Long-Range Transboundary Air Pollution.

Section 6

MAXIMUM DURATION OF THE TRANSITIONAL PERIODS

For the implementation of the provisions of this Annex, the maximum duration of the transitional period is 2 years, from the first transmission deadline.

*ANNEX II***MODULE FOR ENVIRONMENTALLY RELATED TAXES BY ECONOMIC ACTIVITY****Section 1****OBJECTIVES**

Statistics on environmentally related taxes record and present data seen from the perspective of the entities paying the taxes in a way that is fully compatible with the data reported under ESA 95. They record national economies' environmentally related tax revenues according to economic activity. Economic activities comprise production and consumption.

This Annex defines the data to be collected, compiled, transmitted and evaluated for environmentally related tax revenues by economic activity by the Member States.

The environmentally related tax statistics can make use of the tax statistics and government finance statistics directly, but there are some advantages in using the tax data reported under ESA 95 if this is possible.

The environmentally related tax statistics are based on the amounts evidenced by assessments and declarations or time-adjusted cash receipts, to ensure consistency with ESA 95 and improve international comparability.

The ESA 95 also contains information about which industries and sectors are paying the taxes. Information on taxes reported under ESA 95 can be found in the institutional sector accounts and supply and use tables.

Section 2**COVERAGE**

Environmentally related taxes have the same system boundaries as ESA 95 and consist of compulsory, unrequited payments, in cash or in kind, which are levied by general government or by the institutions of the Union.

Environmentally related taxes fall within the following ESA 95 categories:

- taxes on production and imports (D.2),
- current taxes on income, wealth, etc. (D.5),
- capital taxes (D.91).

Section 3**LIST OF CHARACTERISTICS**

Member States shall produce statistics on environmentally related taxes according to the following characteristics:

- energy taxes,
- transport taxes,
- pollution taxes,
- resource taxes,

All data shall be reported in million national currency.



Section 4

FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION DEADLINES

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 21 months of the end of the reference year.
3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-27 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is the year in which this Regulation enters into force.
5. In the first data transmission, Member States shall include annual data from 2008 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years $n-4$, $n-3$, $n-2$, $n-1$ and n , where n is the reference year.

Section 5

REPORTING TABLES

For each of the characteristics referred to in Section 3, data shall be reported from the perspective of the entities paying the taxes.

For producers, data shall be reported on a breakdown by hierarchical classification of economic activities, NACE Rev.2 (A*64 aggregation level as set out in ESA 95).

For consumers, data shall be reported for:

- households,
- non-residents.

Where the tax cannot be attributed to one of the above groupings of activities, the data shall be reported as not allocated.

Section 6

MAXIMUM DURATION OF THE TRANSITIONAL PERIODS

For the implementation of the provisions of this Annex, the maximum duration of the transitional period is 2 years, from the first transmission deadline.

*ANNEX III***MODULE FOR ECONOMY-WIDE MATERIAL FLOW ACCOUNTS
(EW-MFA)****Section 1****OBJECTIVES**

EW-MFA covers all solid, gaseous, and liquid materials, except for flows of air and water, measured in mass units per year. Like the system of national accounts, EW-MFA serves two major purposes. The detailed material flows provide a rich empirical database for numerous analytical studies. They are also used to compile different economy-wide material flow indicators for national economies.

This Annex defines the data to be collected, compiled, transmitted and evaluated for EW-MFA by the Member States.

Section 2**COVERAGE**

The distinction between stocks and flows is a fundamental principle of a material flow system. In general, a flow is a variable that measures a quantity per time period, whereas a stock is a variable that measures a quantity at a certain point in time. EW-MFA is a flow concept. It measures the flows of material inputs, outputs and stock changes within the economy in mass units per year.

EW-MFA is coherent with the principles of the system of national accounts, such as the residence principle. It accounts for material flows associated with the activities of all resident units of a national economy regardless of their geographic location.

In EW-MFA, there are two types of material flows across system boundaries that are relevant:

- (1) material flows between the national economy and its natural environment. This consists of the extraction of materials (i.e. raw, crude or virgin) from and the discharge of materials (often called residuals) to the natural environment;
- (2) material flows between the national economy and the rest of the world economy. This encompasses imports and exports.

All flows that cross these system boundaries are included in EW-MFA, as well as the additions to the man-made stocks. All other material flows within the economy are not represented in EW-MFA. This means that the national economy is treated in its entirety in EW-MFA and e.g. inter-industry deliveries of products are not described. Natural flows within the natural environment are likewise excluded.



Section 3

LIST OF CHARACTERISTICS

Member States shall produce statistics on the characteristics listed in Section 5 for EW-MFA where applicable.

1. Domestic extraction (DE) covers the annual amount of solid, liquid and gaseous materials (excluding air and water) extracted from the natural environment to be used as inputs in the economy.
2. Physical imports and physical exports covers all imported or exported commodities in mass units. Traded commodities comprise goods at all stages of processing from raw products to finished goods.

Section 4

FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION DEADLINES

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 24 months of the end of the reference year.
3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-27 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is the year in which this Regulation enters into force.
5. In the first data transmission, Member States shall include annual data from 2008 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years $n-4$, $n-3$, $n-2$, $n-1$ and n , where n is the reference year.

Section 5

REPORTING TABLES

Data, expressed in mass units, shall be produced for the characteristics listed in the following tables.



Table A — Domestic extraction (DE)

1 Biomass

1.1 Crops (excluding fodder crops)

1.1.1 Cereals

1.1.2 Roots, tubers

1.1.3 Sugar crops

1.1.4 Pulses

1.1.5 Nuts

1.1.6 Oil-bearing crops

1.1.7 Vegetables

1.1.8 Fruits

1.1.9 Fibres

1.1.10 Other crops n.e.c.

1.2 Crop residues (used), fodder crops and grazed biomass

1.2.1 Crop residues (used)

1.2.1.1 Straw

1.2.1.2 Other crop residues (sugar and fodder beet leaves, other)

1.2.2 Fodder crops and grazed biomass

1.2.2.1 Fodder crops (including biomass harvest from grassland)

1.2.2.2 Grazed biomass

1.3 Wood (in addition, optional reporting of the net increment of timber stock)

1.3.1 Timber (industrial roundwood)

1.3.2 Wood fuel and other extraction

1.4 Wild fish catch, aquatic plants/animals, hunting and gathering

1.4.1 Wild fish catch

1.4.2 All other aquatic animals and plants

1.4.3 Hunting and gathering

2 Metal ores (gross ores)

2.1 Iron

2.2 Non-ferrous metal

2.2.1 Copper (in addition, optional reporting of the metal content)

2.2.2 Nickel (in addition, optional reporting of the metal content)

2.2.3 Lead (in addition, optional reporting of the metal content)

2.2.4 Zinc (in addition, optional reporting of the metal content)

2.2.5 Tin (in addition, optional reporting of the metal content)

2.2.6 Gold, silver, platinum and other precious metals

2.2.7 Bauxite and other aluminium

▼B

2.2.8 Uranium and thorium

2.2.9 Other n.e.c.

3 Non-metallic minerals

3.1 Marble, granite, sandstone, porphyry, basalt, other ornamental or building stone (excluding slate)

3.2 Chalk and dolomite

3.3 Slate

3.4 Chemical and fertiliser minerals

3.5 Salt

3.6 Limestone and gypsum

3.7 Clays and kaolin

3.8 Sand and gravel

3.9 Other n.e.c.

3.10 Excavated earthen materials (including soil), only if used (optional reporting)

4 Fossil energy materials/carriers

4.1 Coal and other solid energy materials/carriers

4.1.1 Lignite (brown coal)

4.1.2 Hard coal

4.1.3 Oil shale and tar sands

4.1.4 Peat

4.2 Liquid and gaseous energy materials/carriers

4.2.1 Crude oil, condensate and natural gas liquids (NGL)

4.2.2 Natural gas

Tables B (Imports — Total trade), C (Imports — Extra-EU trade), D (Exports — Total trade), E (Exports — Extra-EU trade)

1 Biomass and biomass products

1.1 Crops, raw and processed

1.1.1 Cereals, raw and processed

1.1.2 Roots, tubers, raw and processed

1.1.3 Sugar crops, raw and processed

1.1.4 Pulses, raw and processed

1.1.5 Nuts, raw and processed

1.1.6 Oil-bearing crops, raw and processed

1.1.7 Vegetables, raw and processed

1.1.8 Fruits, raw and processed

1.1.9 Fibres, raw and processed

1.1.10 Other crops n.e.c., raw and processed

1.2 Crop residues and fodder crops

1.2.1 Crop residues (used), raw and processed

▼B

1.2.1.1	Straw
1.2.1.2	Other crop residues
1.2.2	Fodder crops
1.2.2.1	Fodder crops
1.3	Wood and wood products
1.3.1	Timber, raw and processed
1.3.2	Wood fuel and other extraction, raw and processed
1.4	Fish capture and other aquatic animals and plants, raw and processed
1.4.1	Fish capture
1.4.2	All other aquatic animals and plants
1.5	Live animals other than in 1.4, and animal products
1.5.1	Live animals other than in 1.4
1.5.2	Meat and meat preparations
1.5.3	Dairy products, birds' eggs, and honey
1.5.4	Other products from animals (animal fibres, skins, furs, leather, etc.)
1.6	Products mainly from biomass
2	Metal ores and concentrates, raw and processed
2.1	Iron ores and concentrates, iron and steel, raw and processed
2.2	Non-ferrous metal ores and concentrates, raw and processed
2.2.1	Copper
2.2.2	Nickel
2.2.3	Lead
2.2.4	Zinc
2.2.5	Tin
2.2.6	Gold, silver, platinum and other precious metals
2.2.7	Bauxite and other aluminium
2.2.8	Uranium and thorium
2.2.9	Other n.e.c.
2.3	Products mainly from metals
3	Non-metallic minerals, raw and processed
3.1	Marble, granite, sandstone, porphyry, basalt and other ornamental or building stone (excluding slate)
3.2	Chalk and dolomite
3.3	Slate
3.4	Chemical and fertiliser minerals
3.5	Salt
3.6	Limestone and gypsum
3.7	Clays and kaolin
3.8	Sand and gravel
3.9	Other n.e.c.

▼B

<p>3.10 Excavated earthen materials (including soil), only if used (optional reporting)</p> <p>3.11 Products mainly from non-metallic minerals</p> <p>4 Fossil energy materials/carriers, raw and processed</p> <p>4.1 Coal and other solid energy products, raw and processed</p> <p> 4.1.1 Lignite (brown coal)</p> <p> 4.1.2 Hard coal</p> <p> 4.1.3 Oil shale and tar sands</p> <p> 4.1.4 Peat</p> <p>4.2 Liquid and gaseous energy products, raw and processed</p> <p> 4.2.1 Crude oil, condensate and natural gas liquids (NGL)</p> <p> 4.2.2 Natural gas</p> <p>4.3 Products mainly from fossil energy products</p> <p>5 Other products</p> <p>6 Waste imported (Tables B and C)/exported (Tables D and E) for final treatment and disposal</p>

The following adjustments for the residence principle shall be included in Tables B and D:

<p>Fuel bunkered by resident units abroad (addition to imports Table B) and Fuel bunkered by non-resident units on the national territory (addition to exports Table D)</p> <p> 1 Fuel for land transport</p> <p> 2 Fuel for water transport</p> <p> 3 Fuel for air transport</p>
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Section 6**MAXIMUM DURATION OF THE TRANSITIONAL PERIODS**

For the implementation of the provisions of this Annex the maximum duration of the transitional period is 2 years, from the first transmission deadline.

▼ **M1***ANNEX IV***MODULE FOR ENVIRONMENTAL PROTECTION EXPENDITURE ACCOUNTS****Section 1****OBJECTIVES**

Environmental protection expenditure accounts present data, in a way that is compatible with the data reported under ESA, on the expenditure for environmental protection, i.e. the economic resources devoted by resident units to environmental protection. Such accounts allow for the compiling of national expenditure for environmental protection which is defined as the sum of uses of environmental protection services by resident units, gross fixed capital formation (GFCF) for environmental protection activities, and transfers for environmental protection which are not a counterpart of previous items, less financing by the rest of the world.

The environmental protection expenditure accounts should make use of the already existing information from the national accounts (production and generation of income accounts; GFCF by NACE, supply and use tables; data based on the classification of functions of government), structural business statistics, business register and other sources.

This Annex defines the data to be collected, compiled, transmitted and evaluated for the purposes of environmental protection expenditure accounts by the Member States.

Section 2**COVERAGE**

Environmental protection expenditure accounts have the same system boundaries as ESA and show environmental protection expenditure for principal, secondary and ancillary activities. The following sectors are covered:

- general government (including non-profit institutions serving households) and corporations as institutional sectors producing environmental protection services. Specialist producers produce environmental protection services as their principal activity,
- households, general government and corporations as consumers of environmental protection services,
- the rest of the world as beneficiary, or origin, of transfers for environmental protection.

Section 3**LIST OF CHARACTERISTICS**

Member States shall produce environmental protection expenditure accounts according to the following characteristics which are defined in accordance with ESA:

- output of environmental protection services. Market output, non-market output and output of ancillary activities are distinguished,
- intermediate consumption of environmental protection services by specialist producers,

▼ M1

- imports and exports of environmental protection services,
- valued added tax (VAT) and other taxes less subsidies on products on environmental protection services,
- gross fixed capital formation and acquisitions less disposals of non-financial non-produced assets for the production of environmental protection services,
- final consumption of environmental protection services,
- environmental protection transfers (received/paid).

All data shall be reported in million national currency.

Section 4**FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION DEADLINES**

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 24 months of the end of the reference year.
3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-28 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is 2015.
5. In the first transmission of data, Member States shall include annual data from 2014 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years $n - 2$, $n - 1$ and n , where n is the reference year. Member States may provide any available data for the years preceding 2014.

Section 5**REPORTING TABLES**

1. For the characteristics referred to in Section 3, data shall be reported in a breakdown by:
 - type of producers/consumers of environmental protection services as defined in Section 2,
 - classes of the classification of environmental protection activities (CEPA) grouped as follows:

For general government activities and for environmental protection transfers:

 - CEPA 2
 - CEPA 3
 - Sum of CEPA 1, CEPA 4, CEPA 5 and CEPA 7
 - CEPA 6
 - Sum of CEPA 8 and CEPA 9

▼ M1

For ancillary activities of corporations:

- CEPA 1
- CEPA 2
- CEPA 3
- Sum of CEPA 4, CEPA 5, CEPA 6, CEPA 7, CEPA 8 and CEPA 9

For corporations as secondary and specialist producers:

- CEPA 2
- CEPA 3
- CEPA 4

For households as consumers:

- CEPA 2
- CEPA 3

- The following NACE codes for the ancillary production of environmental protection services: NACE Rev. 2 B, C, D, Division 36. Data for section C shall be presented by divisions. Divisions 10-12, 13-15 and 31-32 shall be grouped together. Member States which, under Regulation (EC) No 295/2008 of the European Parliament and of the Council⁽¹⁰⁾ (as regards the definitions of characteristics, the technical format for the transmission of data, the double reporting requirements for NACE Rev. 1.1 and NACE Rev. 2 and derogations to be granted for structural business statistics), are not obliged to collect environmental protection expenditure data for one or more of these NACE codes, do not need to provide data for these NACE codes.

2. The CEPA classes referred to in point 1 are as follows:

- 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.

Section 6

MAXIMUM DURATION OF THE TRANSITIONAL PERIODS

For the implementation of the provisions of this Annex, the maximum duration of the transitional period is 2 years from the first transmission deadline.

▼ M1*ANNEX V***MODULE FOR ENVIRONMENTAL GOODS AND SERVICES SECTOR
ACCOUNTS****Section 1****OBJECTIVES**

Statistics on environmental goods and services record and present data on national economy production activities that generate environmental products in a way that is compatible with the data reported under ESA.

The environmental goods and services sector accounts should make use of the already existing information from the national accounts, structural business statistics, business register and other sources.

This Annex defines the data to be collected, compiled, transmitted and evaluated for environmental goods and services accounts, by the Member States.

Section 2**COVERAGE**

The environmental goods and services sector has the same system boundaries as ESA and consists of all environmental goods and services that are created within the production boundary. ESA defines production as the activity carried out under the control and responsibility of an institutional unit that uses inputs of labour, capital and goods and services to produce goods and services.

Environmental goods and services fall within the following categories: environmental specific services, environmental sole purpose products (connected products), adapted goods and environmental technologies.

Section 3**LIST OF CHARACTERISTICS**

Member States shall produce statistics on the environmental goods and services sector according to the following characteristics:

- market output, of which:
 - exports,
- value added of market activities,
- employment of market activities.

All data shall be reported in million national currency, except for the characteristic 'employment' for which the reporting unit shall be 'full time equivalent'.

Section 4**FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION
DEADLINES**

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 24 months of the end of the reference year.

▼ M1

3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-28 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is 2015.
5. In the first transmission of data, Member States shall include annual data from 2014 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years $n - 2$, $n - 1$ and n , where n is the reference year. Member States may provide any available data for the years preceding 2014.

Section 5

REPORTING TABLES

1. For the characteristics referred to in Section 3, data shall be reported cross-classified by:
 - classification of economic activities, NACE Rev. 2 (A*21 aggregation level as set out in ESA),
 - CEPA classes and the classification of resource management activities (CReMA) grouped as follows:
 - CEPA 1
 - CEPA 2
 - CEPA 3
 - CEPA 4
 - CEPA 5
 - CEPA 6
 - Sum of CEPA 7, CEPA 8 and CEPA 9
 - CReMA 10
 - CReMA 11
 - CReMA 13
 - CReMA 13A
 - CReMA 13B
 - CReMA 13C
 - CReMA 14
 - Sum of CReMA 12, CReMA 15 and CReMA 16

▼ M1

2. The CEPA classes referred to in point 1 are as set out in Annex IV. The CReMA classes referred to in point 1 are as follows:

CReMA 10 — Management of water

CReMA 11 — Management of forest resources

CReMA 12 — Management of wild flora and fauna

CReMA 13 — Management of energy resources:

— CReMA 13A — Production of energy from renewable resources

— CReMA 13B — Heat/energy saving and management

— CReMA 13C — Minimisation of the use of fossil energy as raw materials

CReMA 14 — Management of minerals

CReMA 15 — Research and development activities for resource management

CReMA 16 — Other resource management activities

Section 6**MAXIMUM DURATION OF THE TRANSITIONAL PERIODS**

For the implementation of the provisions of this Annex, the maximum duration of the transitional period is 2 years from the first transmission deadline.

▼ M1*ANNEX VI***MODULE FOR PHYSICAL ENERGY FLOW ACCOUNTS****Section 1****OBJECTIVES**

Physical energy flow accounts present data on the physical flows of energy expressed in terajoules in a way that is fully compatible with the ESA. Physical energy flow accounts record energy data in relation to the economic activities of resident units of national economies in a breakdown by economic activity. They present the supply and use of natural energy inputs, energy products and energy residuals. Economic activities comprise production, consumption, and accumulation.

This Annex defines the data to be collected, compiled, transmitted and evaluated for physical energy flow accounts by the Member States.

Section 2**COVERAGE**

Physical energy flow accounts have the same system boundaries as ESA and are also based on the residence principle.

In accordance with ESA, a unit is said to be a resident unit of a country when it has a centre of economic interest in the economic territory of that country, that is, when it engages for an extended period (1 year or more) in economic activities in that territory.

Physical energy flow accounts record physical energy flows arising from the activities of all resident units, regardless of where these flows actually occur geographically.

Physical energy flow accounts record the physical flows of energy from the environment to the economy, within the economy, and from the economy back to the environment.

Section 3**LIST OF CHARACTERISTICS**

Member States shall produce physical energy flow accounts according to the following characteristics:

— the physical energy flows grouped into three generic categories:

- (i) natural energy inputs,
- (ii) energy products,
- (iii) energy residuals,

— the origin of the physical energy flows, grouped into five categories: production, consumption, accumulation, rest of the world and environment,

— the destination of the physical flows, grouped into the same five categories as the origin of the physical energy flows.

All data shall be reported in terajoules.

▼ **M1****Section 4****FIRST REFERENCE YEAR, FREQUENCY AND TRANSMISSION DEADLINES**

1. Statistics shall be compiled and transmitted on a yearly basis.
2. Statistics shall be transmitted within 21 months of the end of the reference year.
3. In order to meet user needs for complete and timely datasets, the Commission (Eurostat) shall produce, as soon as sufficient country data becomes available, estimates for the EU-28 totals for the main aggregates of this module. The Commission (Eurostat) shall, wherever possible, produce and publish estimates for data that have not been transmitted by Member States within the deadline specified in point 2.
4. The first reference year is 2015.
5. In the first transmission of data, Member States shall include annual data from 2014 to the first reference year.
6. In each subsequent data transmission to the Commission, Member States shall provide annual data for the years $n - 2$, $n - 1$ and n , where n is the reference year. Member States may provide any available data for the years preceding 2014.

Section 5**REPORTING TABLES**

1. For the characteristics referred to in Section 3, the following data shall be reported in physical units:
 - Supply table for energy flows. This table records the supply of natural energy inputs, energy products, and energy residuals (row-wise) by origin, i.e. 'supplier' (column-wise).
 - Use table for energy flows. This table records the use of natural energy inputs, energy products, and energy residuals (row-wise) by destination, i.e. 'user' (column-wise).
 - Table of emission-relevant use of energy flows. This table records the emission-relevant use of natural energy inputs and energy products (row-wise) by the using and emitting unit (column-wise).
 - Bridge table showing the various elements which make up the difference between the energy accounts and the energy balances.
2. The supply and use tables of energy flows (including emission-relevant flows) have a common layout in terms of rows and columns.
3. The columns denote the origins (supply) or destinations (use) of the physical flows. The columns are grouped into five categories:
 - 'Production' relates to the production of goods and services. Production activities are classified according to NACE Rev. 2 and data is reported in A*64 aggregation level.

▼ M1

- ‘Consumption’ activities are presented in total and also divided into three sub-classes (transport, heating/cooling, other) for private households’ final consumption.
 - ‘Accumulation’ refers to the changes in stocks of energy products within the economy.
 - ‘Rest of the world’ records the flows of imported and exported products.
 - ‘Environment’ records the origin of natural input flows and the destination of residual flows.
4. The rows describe the type of physical flows classified in the first indent of Section 3.
5. The classification of natural energy inputs, energy products, and energy residuals is as follows:
- natural energy inputs are grouped into non-renewable natural energy inputs and renewable natural energy inputs,
 - energy products are grouped according to the classification used in European energy statistics,
 - energy residuals include waste (without monetary value); losses during extraction/abstraction, distribution/transport, transformation/conversion and storage; as well as balancing items to balance the supply and use tables.
6. The ‘bridge’ from the residence principle indicator to the territory-based indicator is presented for the entire national economy (no breakdown by industries) and is obtained as follows:
- total energy use by resident units:
- energy use by resident units abroad
 - + energy use by non-residents on the territory
 - + statistical differences
 - = gross inland energy consumption (territory-based)

Section 6**MAXIMUM DURATION OF THE TRANSITIONAL PERIODS**

For the implementation of the provisions of this Annex, the maximum duration of the transitional period is 2 years from the first transmission deadline.