

**Ecosystem Services Accounts:
Data validation rules and checks 2026**

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The structure of the document

This document presents a compilation of rules and checks for the validation of data reported in the EU Ecosystem Services Accounts (ECOSER) questionnaire by countries to Eurostat, and informs compilers about the process.

A validation rule is a logical statement applied to data, which may result, in case of this data collection in four possible outcomes:

- **PASS/OK** – data meet the condition of the validation check, i.e. no issues detected and no action needed from the reporting country.
- **WARNING** – thresholds have been exceeded, i.e. the reporting country has to confirm the data and briefly explain for what reasons (e.g. country-specific circumstances) data do not conform to pre-agreed rules and thresholds. Data may be accepted based on the explanation.
- **ERROR** – data do not conform to well-established accounting / mathematical rules, i.e. the reporting country must correct and resubmit the data.
- **INFORMATION** – used for cross-country comparisons - data do not fall within the 25th and 75th percentile of values of all reporting countries.

The document presents validation rules from two perspectives: (i) the total of Annexes 1-3 presents the complete set of validation rules; (ii) Annex 4 then presents the same complete set of validation rules, but grouped according to the validation tool that performs them (regardless of their grouping in Annexes 1-3). Annex 4 is included in this document for information, to help compilers understand the validation process and required action on their part.

More specifically, the document is structured in five annexes:

- **Annex 1:** examines the general content of cells in the questionnaire in terms of validity of used symbols (data cells, cells intended for flags, reference years and country code) without considering the relationship with other cells.
- **Annex 2:** includes internal consistency checks within and between ECOSERV tables 1 (supply) and 2 (use).
- **Annex 3:** includes plausibility checks: (i) examination of the time series, (ii) coherence of ECOSERV data with data from other environmental accounts, (iii) coherence with data from related fields of statistics and (iv) cross-country comparisons.
- **Annex 4:** summarizes the process and steps in the validation. Each dataset submitted to Eurostat needs to pass through a series of validation points (“gates”). Each point is associated with a specific validation tool using a subset of validation checks presented in earlier annexes. The objective of the step-wise validation is to filter out obvious errors in submitted data and inform the compiler about the need for correction as fast after the submission as possible (the immediate “bounce-back checks” implemented at the earliest validation points) so that only datasets cleaned of obvious errors reach the database where a more time-consuming plausibility takes place. This section helps compilers understand what to expect during the validation.
 - **Validation step 1: Built-in macro function in the questionnaire to be used by countries before submitting data to Eurostat (i.e. pre-validation).**
 - **Validation step 2a: STRUctural VALidation of the questionnaire. Datasets failing these STRUVAL checks are automatically rejected by Eurostat’s IT system. Country receives an immediate error report via EDAMIS listing issues that need to be corrected before the content of the dataset can reach Eurostat and be examined further.**
 - **Validation step 2b: CONtent VALidation of the questionnaire. Datasets failing these CONVAL checks are automatically rejected by Eurostat’s IT system. Country receives an immediate error report via EDAMIS listing issues that need to be corrected so that the dataset can be loaded to Eurostat’s internal database for further validation and subsequent publication.**
 - **Validation step 3: SQL-based validation performed in Eurostat’s internal database after data upload. The output of this step is the Ms Excel validation (and revision) report, sent to countries via EDAMIS channel – ‘ENVDATA_ESERVER_N’.**
- **Annex 5:** lists Eurostat codes for all items reported in the ECOCON questionnaire; they are also used in the validation report, i.e. the annex is the reference list of codes for national compilers.

Annex 1 – ECOSERV – validation of general content of questionnaire cells /correctness of symbols used

Worksheet ‘GETTING STARTED’

Rule 1 – CONTACT	
Coded format	
Description	The cells designated to include compilers’ ‘Name’, ‘Institution’ and ‘e-mail’ must not be blank.
Threshold	NA
Notification	WARNING

All data tables

Rule 1b – COUNTRY ¹	
Coded format	
Description	The content of cells designated for the code of the reporting country must be equal to one of the 2-letter country codes defined by the EU.
Threshold	NA
Notification	ERROR

Rule 2 – REFERENCE YEAR ²	
Coded format	
Description	The content of cells designated for the reference year must be filled in with a valid reference year.
Threshold	NA
Notification	ERROR

Rule 2b – Reference year – EDAMIS ³	
Coded format	
Description	The reference year entered in the cells designated for the reference year must be equal to the reference year entered in the EDAMIS submission system, i.e. the one appearing in the EDAMIS file name ‘EFA_ACC_A_xx_XXXX_0000_V000x’.
Threshold	NA
Notification	ERROR

¹ In reality, countries only fill in the country code on worksheet ‘GETTING STARTED’ (and it is copied to all tables). However, the validation check examines the correctness of the country code in all table (all worksheets), therefore the check is listed here as applicable to ‘All tables’.

² As above.

³ As footnote above.

Rule 3 – COMPLETENESS

Coded format	
Txt code	QC_COMPLETENESS_01_T1 QC_COMPLETENESS_01_T2
Description	The dataset must include all mandatory characteristics as specified in Regulation (EU) 691/2011, Annex IX. Notification: WARNING (until data collection year 2026, then ERROR)
Threshold	NA
Notification	WARNING (until data collection year 2026, then ERROR)

Rule 4 – FLAGS

Coded format	
Txt code	(i) QC_FLAGS_01_01 (ii) QC_FLAGS_01_03 (iii) QC_FLAGS_01_P_Flag
Description	(i) The content of cells designated for flags and footnotes must not differ from predefined entries (i.e. 'b', 'e', 'p' for cells for standard footnotes and 'a number' for cells for country-specific footnotes). (ii) The content of cells designated for flags and footnotes and related cells for data must be a valid combination of symbols. (iii) Provisional flag from previous data collection (must be removed – final data)
Threshold	NA
Notification	(i) ERROR (ii) ERROR (iii) WARNING

Rule 5a – NUMERIC

Coded format	
Description	The content of cells designated for data must be a number.
Threshold	NA
Notification	ERROR

Rule 5b – MUST NOT BE NEGATIVE	
Coded format	All except for: • REG_CO2_SEQ_NET • REG_CO2_SEQ_NET_PRIM
Txt code	QC_SELECT_WHERE_NEG
Description	The content of the cell after rounding to 0 decimal places must not be a negative number. This applies to all reporting items <u>except for:</u> • 'Global climate regulation - net sequestration (indicator)' • 'Global climate sequestration - primary net sequestration (ecosystem service)'
Threshold	NA
Notification	ERROR

Annex 2 – ECOSERV – internal consistency checks

Table 1 (Supply) and Table 2 (Use)

Rule 6a – AGGREGATION – PROV_CR	
Coded format	(i) If not all addends available: $PROV_CR_MF11_12 > PROV_CR_MF11 + PROV_CR_MF12$ (ii) If all addends available: $PROV_CR_MF11_12 = PROV_CR_MF11 + PROV_CR_MF12$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_CR_MF11_12_sum_notall (ii) QC_ADDITIONS_PROV_CR_MF11_12_sum (iii) QC_ADDITIONS_PROV_CR_MF11_12_comp
Description	(i) If not all addends available: values for total 'Crop provision' have to be greater than the sum of values for 'MF.1.1 Crops (excluding fodder crops)' and 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: values for total 'Crop provision' have to be equal to the sum of values for 'MF.1.1 Crops (excluding fodder crops)' and 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it should be calculated.
Threshold	0.01
Notification	ERROR

Rule 6b – AGGREGATION – PROV_CR_MF11	
Coded format	(i) If not all addends available: $PROV_CR_MF11 > PROV_CR_MF111 + PROV_CR_MF112 + PROV_CR_MF113 + PROV_CR_MF114 + PROV_CR_MF115 + PROV_CR_MF116 + PROV_CR_MF117 + PROV_CR_MF118 + PROV_CR_MF119 + PROV_CR_MF11A$ (ii) If all addends available: $PROV_CR_MF11 = PROV_CR_MF111 + PROV_CR_MF112 + PROV_CR_MF113 + PROV_CR_MF114 + PROV_CR_MF115 + PROV_CR_MF116 + PROV_CR_MF117 + PROV_CR_MF118 + PROV_CR_MF119 + PROV_CR_MF11A$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_CR_MF11_sum_notall (ii) QC_ADDITIONS_PROV_CR_MF11_sum (iii) QC_ADDITIONS_PROV_CR_MF11_comp

Description	Values for the provision of 'MF.1.1 Crops (excluding fodder crops)' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.1.x for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.1.x for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6c – AGGREGATION – PROV_CR_MF12

Coded format	(i) If not all addends available: $PROV_CR_MF12 > PROV_CR_MF121 + PROV_CR_MF122$ (ii) If all addends available: $PROV_CR_MF12 = PROV_CR_MF121 + PROV_CR_MF122$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_CR_MF12_sum_notall (ii) QC_ADDITIONS_PROV_CR_MF12_sum (iii) QC_ADDITIONS_PROV_CR_MF12_comp
Description	Values for the provision of 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.1 and 1.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.1 and 1.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6d – AGGREGATION – PROV_CR_MF121

Coded format	(i) If not all addends available: $PROV_CR_MF121 > PROV_CR_MF1211 + PROV_CR_MF1212$ (ii) If all addends available: $PROV_CR_MF121 = PROV_CR_MF1211 + PROV_CR_MF1212$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_CR_MF121_sum_notall (ii) QC_ADDITIONS_PROV_CR_MF121_sum (iii) QC_ADDITIONS_PROV_CR_MF121_comp

Description	Values for the provision of 'MF.1.2.1 Crop residues (used)' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.1.1 and 1.2.1.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.1.1 and 1.2.1.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6e – AGGREGATION – PROV_CR_MF122

Coded format	(i) If not all addends available: $PROV_CR_MF122 > PROV_CR_MF1221 + PROV_CR_MF1222$ (ii) If all addends available: $PROV_CR_MF122 = PROV_CR_MF1221 + PROV_CR_MF1222$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_CR_MF122_sum_notall (ii) QC_ADDITIONS_PROV_CR_MF122_sum (iii) QC_ADDITIONS_PROV_CR_MF122_comp
Description	Values for the provision of 'MF.1.2.2 Fodder crops and grazed biomass' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.2.1 and 1.2.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.2.1 and 1.2.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6f – AGGREGATION – PROV_POLN

Coded format	(i) If not all addends available: $PROV_POLN_MF11_12 > PROV_POLN_MF11 + PROV_POLN_MF12$ (ii) If all addends available: $PROV_POLN_MF11_12 = PROV_POLN_MF11 + PROV_POLN_MF12$ (iii) If one addend missing: calculation missing.
Txt code	(i) QC_ADDITIONS_PROV_POLN_MF11_12_sum_notall (ii) QC_ADDITIONS_PROV_POLN_MF11_12_sum (iii) QC_ADDITIONS_PROV_POLN_MF11_12_comp

Description	(i) If not all addends available: values for total 'Crop pollination' have to be greater than the sum of values for 'MF.1.1 Crops (excluding fodder crops)' and 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: values for total 'Crop pollination' have to be equal to the sum of values for 'MF.1.1 Crops (excluding fodder crops)' and 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it should be calculated.
Threshold	0.01
Notification	ERROR

Rule 6g – AGGREGATION – PROV_POLN_MF11

Coded format	(i) If not all addends available: $PROV_POLN_MF11 > PROV_POLN_MF111 + PROV_POLN_MF112 + PROV_POLN_MF113 + PROV_POLN_MF114 + PROV_POLN_MF115 + PROV_POLN_MF116 + PROV_POLN_MF117 + PROV_POLN_MF118 + PROV_POLN_MF119 + PROV_POLN_MF11A$ (ii) If all addends available: $PROV_POLN_MF11 = PROV_POLN_MF111 + PROV_POLN_MF112 + PROV_POLN_MF113 + PROV_POLN_MF114 + PROV_POLN_MF115 + PROV_POLN_MF116 + PROV_POLN_MF117 + PROV_POLN_MF118 + PROV_POLN_MF119 + PROV_POLN_MF11A$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_POLN_MF11_sum_notall (ii) QC_ADDITIONS_PROV_POLN_MF11_sum (iii) QC_ADDITIONS_PROV_POLN_MF11_comp
Description	Values for the pollination of 'MF.1.1 Crops (excluding fodder crops)' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.1.x for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.1.x for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6h – AGGREGATION – PROV_POLN_MF12

Coded format	(i) If not all addends available: $PROV_POLN_MF12 > PROV_POLN_MF121 + PROV_POLN_MF122$ (ii) If all addends available: $PROV_POLN_MF12 = PROV_POLN_MF121 + PROV_POLN_MF122$ (iii) If one addend missing: calculation missing
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Txt code	(i) QC_ADDITIONS_PROV_POLN_MF12_sum_notall (ii) QC_ADDITIONS_PROV_POLN_MF12_sum (iii) QC_ADDITIONS_PROV_POLN_MF12_comp
Description	Values for the pollination of 'MF.1.2 Crop residues (used), fodder crops and grazed biomass' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.1 and 1.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.1 and 1.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6i – AGGREGATION – PROV_POLN_MF121

Coded format	(i) If not all addends available: PROV_POLN_MF121 > PROV_POLN_MF1211 + PROV_POLN_MF1212 (ii) If all addends available: PROV_POLN_MF121 = PROV_POLN_MF1211 + PROV_POLN_MF1212 (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_POLN_MF121_sum_notall (ii) QC_ADDITIONS_PROV_POLN_MF121_sum (iii) QC_ADDITIONS_PROV_POLN_MF121_comp
Description	Values for the pollination of 'MF.1.2.1 Crop residues (used)' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.1.1 and 1.2.1.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.1.1 and 1.2.1.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 6j – AGGREGATION – PROV_POLN_MF122

Coded format	(i) If not all addends available: PROV_POLN_MF122 > PROV_POLN_MF1221 + PROV_POLN_MF1222 (ii) If all addends available: PROV_POLN_MF122 = PROV_POLN_MF1221 + PROV_POLN_MF1222 (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_PROV_POLN_MF122_sum_notall (ii) QC_ADDITIONS_PROV_POLN_MF122_sum (iii) QC_ADDITIONS_PROV_POLN_MF122_comp

Description	Values for the pollination of 'MF.1.2.2 Fodder crops and grazed biomass' have to be: (i) If not all addends available: greater than the sum of values reported for MF sub-items 1.2.2.1 and 1.2.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (ii) If all addends available: equal to the sum of values reported for the MF sub-items 1.2.2.1 and 1.2.2.2 for (i) all ecosystem types (in Table 1 – Supply) and (ii) use types (in Table 2 – Use). (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 7a – AGGREGATION – TOTAL SUPPLY

Coded format	For all ECOSERV except for REG_CL_RED_DEGC_GT25: (i) If not all addends available: $ECOSERV(TOTAL) > ECOSERV(ECO01) + ECOSERV(ECO02) + ECOSERV(ECO03) + ECOSERV(ECO04) + ECOSERV(ECO05) + ECOSERV(ECO06) + ECOSERV(ECO07) + ECOSERV(ECO08) + ECOSERV(ECO09) + ECOSERV(ECO10) + ECOSERV(ECO11) + ECOSERV(ECO12)$ (ii) If all addends available: $ECOSERV(TOTAL) = ECOSERV(ECO01) + ECOSERV(ECO02) + ECOSERV(ECO03) + ECOSERV(ECO04) + ECOSERV(ECO05) + ECOSERV(ECO06) + ECOSERV(ECO07) + ECOSERV(ECO08) + ECOSERV(ECO09) + ECOSERV(ECO10) + ECOSERV(ECO11) + ECOSERV(ECO12)$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_TOTAL_THS_T_sum_notall (ii) QC_ADDITIONS_TOTAL_THS_T_sum (iii) QC_ADDITIONS_TOTAL_THS_T_comp (i) QC_ADDITIONS_TOTAL_THS_M3_sum_notall (ii) QC_ADDITIONS_TOTAL_THS_M3_sum (iii) QC_ADDITIONS_TOTAL_THS_M3_comp (i) QC_ADDITIONS_TOTAL_T_sum_notall (ii) QC_ADDITIONS_TOTAL_T_sum (iii) QC_ADDITIONS_TOTAL_T_comp (i) QC_ADDITIONS_TOTAL_DEGC_sum_notall (ii) QC_ADDITIONS_TOTAL_DEGC_sum (iii) QC_ADDITIONS_TOTAL_DEGC_comp (i) QC_ADDITIONS_TOTAL_NR_sum_notall (ii) QC_ADDITIONS_TOTAL_NR_sum (iii) QC_ADDITIONS_TOTAL_NR_comp

Description	Values for the total supply of an ecosystem service for the accounting area (all ecosystem types) for all ecosystem services except for 'Local climate regulation'⁴ have to be: (i) If not all addends available: greater than or equal to the sum of values reported for ecosystem types ECO01 – ECO12. (ii) If all addends available: equal to the sum of values reported for ecosystem types ECO01 – ECO12. (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	WARNING (note: reporting for ECO10 and ECO12 is voluntary; total is voluntary)

Rule 7b – AGGREGATION – USE

Coded format	For all ECOSERV except for REG_CL_RED_DEGC_GT25: (i) If not all addends available: $ECOSERV(TU) > ECOSERV(P2) + ECOSERV(P3_S13) + ECOSERV(P3_S14) + ECOSERV(P5) + ECOSERV(P6)$ (ii) If all addends available: $ECOSERV(TU) = ECOSERV(P2) + ECOSERV(P3_S13) + ECOSERV(P3_S14) + ECOSERV(P5) + ECOSERV(P6)$ (iii) If one addend missing: calculation missing
Txt code	(i) QC_ADDITIONS_TU_THS_T_sum_notall (ii) QC_ADDITIONS_TU_THS_T_sum (iii) QC_ADDITIONS_TU_THS_T_comp (i) QC_ADDITIONS_TU_THS_M3_sum_notall (ii) QC_ADDITIONS_TU_THS_M3_sum (iii) QC_ADDITIONS_TU_THS_M3_comp (i) QC_ADDITIONS_TU_T_sum_notall (ii) QC_ADDITIONS_TU_T_sum (iii) QC_ADDITIONS_TU_T_comp (i) QC_ADDITIONS_TOTAL_DEGC_sum_notall (ii) QC_ADDITIONS_TOTAL_DEGC_sum (iii) QC_ADDITIONS_TOTAL_DEGC_comp (i) QC_ADDITIONS_TU_NR_sum_notall (ii) QC_ADDITIONS_TU_NR_sum (iii) QC_ADDITIONS_TU_NR_comp

⁴ This refers to the simple average cooling per ecosystem type (see paragraph 10.35 of the [Ecosystem accounts handbook](#)).

Description	Values for the total use of an ecosystem service for the accounting area (all use types) for all ecosystem services except for 'Local climate regulation' have to be: (i) If not all addends available: greater than or equal to the sum of values reported for use types 'Intermediate consumption by industries', 'Government final consumption', 'Household final consumption', 'Gross capital formation' and 'Exports'. (ii) If all addends available: equal to the sum of values reported for use types 'Intermediate consumption by industries', 'Government final consumption', 'Household final consumption', 'Gross capital formation' and 'Exports'. (iii) If one addend missing, it can be calculated.
Threshold	0.01
Notification	ERROR

Rule 8a – COMPARISON – PROV_CR ≥ PROV_POLN

Coded format	PROV_CR_MF1XXX(TOTAL_ECOSYST) ≥ PROV_POLN_MF1XXX(TOTAL_ECOSYST)
Txt code	QC_OF_WHICH_MF11_12 QC_OF_WHICH_MF11 QC_OF_WHICH_MF111 QC_OF_WHICH_MF112 QC_OF_WHICH_MF113 QC_OF_WHICH_MF114 QC_OF_WHICH_MF115 QC_OF_WHICH_MF116 QC_OF_WHICH_MF117 QC_OF_WHICH_MF118 QC_OF_WHICH_MF119 QC_OF_WHICH_MF11A QC_OF_WHICH_MF12 QC_OF_WHICH_MF121 QC_OF_WHICH_MF1211 QC_OF_WHICH_MF1212 QC_OF_WHICH_MF122 QC_OF_WHICH_MF1221 QC_OF_WHICH_MF1222
Description	Value reported for 'Crop provision' has to be greater or equal 'Crop pollination' for all MF classes.
Threshold	0.01
Notification	ERROR

Rule 8b – COMPARISON – PM10 ≥ PM2P5

Coded format	REG_AIR_FL_PM10 (ECOSYST) ≥ REG_AIR_FL_PM2P5 (ECOSYST)
Txt code	QC_OF_WHICH_PM
Description	Value reported for 'Air filtration of particulate matter of 10 µm' has to be greater than or equal to 'Air filtration of particulate matter of 2.5 µm' for all ecosystem types.
Threshold	0.01
Notification	ERROR

Rule 8c – COMPARISON – SEQ_NET_PRIM ≥ SEQ_NET

Coded format	REG_CO2_SEQ_NET_PRIM (ECOSYST) ≥ REG_CO2_SEQ_NET (ECOSYST)
Txt code	QC_OF_WHICH_SEQ
Description	Value reported for the 'Net primary carbon sequestration' (ecosystem service) should be greater than or equal to the value of indicator 'Net carbon sequestration' for all ecosystem types.
Threshold	0.01
Notification	WARNING

Rule 8d – COMPARISON – STO_CM100 ≥ STO_CM30

Coded format	REG_CO2_STO_CM100 (ECOSYST) ≥ REG_CO2_STO_CM30 (ECOSYST)
Txt code	QC_OF_WHICH_STOCM
Description	Value reported for 'Carbon storage in soil depth up to 100 cm' must be greater than or equal to 'Carbon storage in soil depth up to 30 cm' for all ecosystem types.
Threshold	0.01
Notification	ERROR

Rule 8e – COMPARISON – STO_WHL ≥ STO_CM100

Coded format	REG_CO2_STO_WHL (ECOSYST) ≥ REG_CO2_STO_CM100 (ECOSYST)
Txt code	QC_OF_WHICH_STOWHL
Description	Value reported for 'Carbon storage in the whole soil profile' must be greater than or equal to 'Carbon storage in soil depth up to 100 cm' for all ecosystem types.
Threshold	0.01
Notification	ERROR

Rule 8f – COMPARISON – TOUR-TOTAL – TOUR-ECO01

Coded format	CLT_TOUR_NGT_SP(ECO01) ≤ 20% CLT_TOUR_NGT_SP(TOTAL)
Txt code	QC_VALUES_SAME_DIM_TOUR
Description	Value reported for 'Nature-based tourism' for 'Settlements and other artificial areas' should not exceed 20% of the total 'Nature-based tourism'.
Threshold	0.01
Notification	WARNING

Rule 9a – FLOW – SUPPLY– NA⁵

Coded format	(i) PROV_CR_MF11_12(ECO04 – ECO12) = “ “ (ii) PROV_POLN_MF12(ECO01 – ECO12) = “ “ (iii) PROV_POLN_MF11_12(ECO12) = “ “ (iv) PROV_WD_MF13MEMO(ECO08 – ECO12) = “ “, PROV_WD_MF13(ECO08 – ECO12) = “ “ (v) REG_AIR_FL_PM10(ECO12) = “ “, REG_AIR_FL_PM2P5(ECO12) = “ “ (vi) REG_CL_RED_DEGC_GT25(ECO08, ECO09, ECO12) = “ “ REG_CL_RED_DEGC_GT25_WT(ECO08, ECO09, ECO12) = “ “
Txt code	QC_SELECT_WHERE_0SUP_err

⁵ Eurostat will not report incompliance with this rule to countries, instead the content of these cells will be internally forced to be 'na'

Description	The supply for the following items has to be reported as not applicable (blank cells): (i) 'Crop provision' for ecosystem types 'Forest and woodland', 'Heathland and shrub', 'Sparsely vegetated ecosystems', 'Inland wetlands', 'Rivers and canals', 'Lakes and reservoirs', 'Marine inlets and transitional waters', 'Coastal beaches, dunes and wetlands' and 'Marine ecosystems'. (ii) 'Crop pollination' for 'Crop residues, fodder crops and grasses' for ecosystem types 'Forest and woodland', 'Heathland and shrub', 'Sparsely vegetated ecosystems', 'Inland wetlands', 'Rivers and canals', 'Lakes and reservoirs', 'Marine inlets and transitional waters', 'Coastal beaches, dunes and wetlands' and 'Marine ecosystems'. (iii) 'Total' 'Crop pollination' for 'Marine ecosystems'. (iv) 'Wood provision' for ecosystem types 'Rivers and canals', 'Lakes and reservoirs', 'Marine inlets and transitional waters', 'Coastal beaches, dunes and wetlands' and 'Marine ecosystems'. (v) 'Air filtration' for ecosystem type 'Marine ecosystems'. (vi) 'Local climate regulation' (both aggregates) for ecosystem types 'Rivers and canals', 'Lakes and reservoirs', and 'Marine ecosystems'.
Threshold	NA
Notification	ERROR

Rule 9b – FLOW – USE – NA⁶

Coded format	(i) PROV_CR_MF11_12(P3_S13, P3_S14, P5, P6) = " " (ii) PROV_POLN_MF11_12(P3_S13, P3_S14, P5) = " " (iii) PROV_WD_MF13MEMO(P3_S13, P3_S14, P5) = " "; PROV_WD_MF13(P3_S13, P3_S14, P5) = " " (iv) REG_AIR_FL_PM10(P5) = " "; REG_AIR_FL_PM2P5(P5) = " " (v) REG_CO2_SEQ_NET(P2, P3_S14, P5, P6) = " " (vi) REG_CO2_STO_CM30(P2, P3_S14, P5, P6) = " " (vii) REG_CL_RED_DEGC_GT25(P5) = " " REG_CL_RED_DEGC_GT25_WT(P5) = " " (viii) CLT_TOUR_NGT_SP(P2, P3_S13, P5) = " "
Txt code	QC_SELECT_WHERE_0USE_err

⁶ Eurostat will not report incompliance with this rule to countries, instead the content of these cells will be internally forced to be 'na'

Description	The use for the following items has to be reported as not applicable (blank cells): (i) 'Crop provision' for 'Government final consumption', 'Households final consumption', 'Gross capital formation' and 'Exports'. (ii) 'Crop pollination' for 'Government final consumption', 'Households final consumption', and 'Gross capital formation'. (iii) 'Wood provision' for 'Government final consumption', 'Household final consumption', and 'Gross capital formation'. (iv) 'Air filtration' for 'Gross capital formation'. (v) 'Global climate regulation – net sequestration' for 'Intermediate consumption by industries', 'Households final consumption', 'Gross capital formation' and 'Exports'. (vi) 'Global climate regulation – storage 30cm' for 'Intermediate consumption by industries', 'Households final consumption', 'Gross capital formation' and 'Exports'. (vii) 'Local climate regulation' (both aggregates) for 'Gross capital formation'. (viii) 'Nature-based tourism' for 'Intermediate consumption by industries', 'Government final consumption' and 'Gross capital formation'.
Threshold	NA
Notification	ERROR

Table 1 x Table 2 (Cross-table checks)

Rule 10 – SUPPLY – USE	
Coded format	SUPPLY(ECOSERV, Table 1) = USE(ECOSERV, Table 2) for each ECOSERV code
Txt code	QC_ECOSER_XTABLES_SUP_USE
Description	'Total supply' of an ecosystem service in Table 1 has to be equal to its 'Total use' in Table 2.
Threshold	0
Notification	ERROR

Annex 3 – ECOSERV plausibility checks

Time-series analyses

Rule 11 – TIME SERIES – SAME FLOW	
Coded format	ECOSERV (n) = $\pm 10\%$ ECOSERV (n-1)
Txt code	QC_PLAUSIBILITY_02
Description	Time series checks for two consecutive reporting periods for the (i) supply of an ecosystem services by a given ecosystem type in Table 1 and the (ii) use of an ecosystem service by a given use type in Table 2 should not exceed 10%.
Threshold	10%
Notification	WARNING

Coherence with other environmental accounts

Rule 12a – PROV_CRP – MFA (env_ac_mfa)	
Coded format	TOTAL(PROV_CRP_MF _x) = INDIC_ENV(DE) for MATERIAL (MF _x) for all MF11 and MF12 in env_ac_mfa
Txt code	QC_XTABLES_EB_MFA
Description	Total supply of crops/crop residues should be equal to the 'Domestic extraction' of 'Material' for MFA_11_12 and all its breakdown classes.
Threshold	0
Notification	WARNING

Rule 12b – PROV_CRP – MFA (env_ac_mfa) - CONVAL	
Coded format	TOTAL(PROV_CRP_MF11_12) = 0.01 to 100* (INDIC_ENV(DE) for MATERIAL (MF11_12) in env_ac_mfa)
Txt code	
Description	Total supply of crops/crop residues should be within a range of 0.01 – 100 times the value of the 'Domestic extraction' of 'Material' for MFA_11_12 (i.e. disregarding the breakdown classes) in Material Flow Accounts.
Threshold	0.01x – 100x
Notification	ERROR

Rule 13a – PROV_WD_MF13MEMO – EFA (for_vol_efa)	
Coded format	TOTAL(PROV_WD_MF13MEMO) = STK_FLOW(NAI) for INDIC_FO (FAWS, OWL_AWS) in for_vol_efa
Txt code	QC_XTABLES_EB_VOL_EFA_mf13memo
Description	Total supply of wood provision (measured as increment) should be equal to the sum of increment of wood in forest available for wood supply and other wooded land available for wood supply in Forest Accounts.
Threshold	0
Notification	WARNING

Rule 13b – PROV_WD_MF13 – EFA (for_vol_efa)	
Coded format	TOTAL(PROV_WD_MF13) ≤ STK_FLOW(RMOV) for INDIC_FO (FNAWS, OWL) in for_vol_efa
Txt code	QC_XTABLES_EB_VOL_EFA_mf13
Description	Total supply of wood provision (voluntary indicator measured as removals) should be equal to or smaller than the sum of removals of wood in forest not available for wood supply and other wooded land in Forest Accounts.
Threshold	0
Notification	WARNING

Coherence with other statistics

Rule 14a – REG_AIR_FL_PM10 – Air emission inventories (env_air_emis)	
Coded format	TOTAL(REG_AIR_FL_PM10) = 0.8 to 2* (PM10 in env_air_emis; UNIT = TONNES)
Txt code	QC_XTABLES_EB_AIR_EMIS_PM10
Description	Total supply of 'Air filtration of PM10' (tonnes) should be within a threshold of 0.8 – 2 times the value for emissions of PM10 (tonnes) in air emission inventories.
Threshold	0.8x – 2x
Notification	WARNING

Rule 14b – REG_AIR_FL_PM2_5 – Air emission inventories (env_air_emis)	
Coded format	TOTAL(REG_AIR_FL_PM2_5) = 0.8 to 2* (PM2_5 in env_air_emis; UNIT = TONNES)
Txt code	QC_XTABLES_EB_AIR_EMIS_PM2_5
Description	Total supply of 'Air filtration of PM2.5' (tonnes) should be within a threshold of 0.8 – 2 times the value for emissions of PM2.5 (tonnes) in air emission inventories.
Threshold	0.8x – 2x
Notification	WARNING

Rule 14c – REG_AIR_FL_PM10 – env_air_emis - CONVAL

Coded format	TOTAL(REG_AIR_FL_PM10) = 0.01 to 100* (PM10 in env_air_emis; UNIT = TONNES)
Txt code	
Description	Total supply of 'Air filtration of PM10' (tonnes) should be within a range of 0.01 – 100 times the value for emissions of PM10 (tonnes) in air emission inventories.
Threshold	0.01x – 100x
Notification	ERROR

Rule 14d – REG_AIR_FL_PM2_5 – env_air_emis - CONVAL

Coded format	TOTAL(REG_AIR_FL_PM10) = 0.01 to 100* (PM2_5 in env_air_emis; UNIT = TONNES)
Txt code	
Description	Total supply of 'Air filtration of PM2.5' (tonnes) should be within a range of 0.01 – 100 times the value for emissions of PM2.5 (tonnes) in air emission inventories.
Threshold	0.01x – 100x
Notification	ERROR

Rule 15a – REG_CO2_SEQ_NET– Greenhouse gas emission inventories/LULUCF (env_air_gge)

Coded format	i. $\text{TOTAL}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4) for unit (THS_T) in env_air_gge; ii. $\text{ECO01}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4E) for unit (THS_T) in env_air_gge; iii. $\text{ECO02}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4B) for unit (THS_T) in env_air_gge; iv. $\text{ECO03}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4C) for unit (THS_T) in env_air_gge; v. $\text{ECO04}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4A) for unit (THS_T) in env_air_gge; vi. $\text{ECO07}(\text{REG_CO2_SEQ_NET})/1000*(-1)*44/12 = \pm 5\%$ airpol(CO2) for src_crf(CRF4D) for unit (THS_T) in env_air_gge;
Txt code	QC_XTABLES_EUROBASE_GGE_15(i) QC_XTABLES_EUROBASE_GGE_15(ii) QC_XTABLES_EUROBASE_GGE_15(iii) QC_XTABLES_EUROBASE_GGE_15(iv) QC_XTABLES_EUROBASE_GGE_15(v) QC_XTABLES_EUROBASE_GGE_15(vi)

Description	Value reported for 'Global climate regulation - net sequestration (indicator)' should be close to the negative of the value reported for emissions of CO ₂ from LULUCF in greenhouse gas inventories, as follows: i. Total indicator (i.e. aggregate for all ecosystem types) to total LULUCF. ii. Indicator for 'Settlement and other artificial areas' to 'Settlements' in LULUCF. iii. Indicator for 'Cropland' to 'Cropland'. iv. Indicator for 'Grassland' to 'Grassland'. v. Indicator for 'Forest and woodland' to 'Forest land'. vi. Indicator for 'Inland wetland' to 'Wetlands'.
Threshold	5%
Notification	WARNING

Rule 15b – REG_CO2_SEQ_NET – env_air_gge - CONVAL

Coded format	TOTAL(REG_CO2_SEQ_NET)/1000*(-1)*44/12 = 0.01 to 100* airpol(CO2) for src_crf(CRF4) for unit (THS_T) in env_air_gge
Txt code	
Description	Value reported for 'Global climate regulation - net sequestration (indicator)' and converted to thousand tonnes of CO ₂ should be within a range of 0.01 – 100 times of the negative of the value of emissions of CO ₂ from LULUCF reported in greenhouse gas inventories (in thousand tonnes).
Threshold	0.01x – 100x
Notification	ERROR

Rule 16a – CLT_TOUR_NGT_SP – Tourism statistics (tour_occ_ninat) - HH

Coded format	CLT_TOUR_NGT_SP for IND_ACCT = P3_S14 < C_RESID(DOM), NACE_R2(I551-I553), UNIT(NR) in tour_occ_ninat
Txt code	QC_XTABLES_EB_TOUR_HH
Description	'Household final consumption' of 'Nature-based tourism' should be smaller than then number of nights spent by domestic tourists at tourist accommodation establishments.
Threshold	0
Notification	WARNING

Rule 16b – CLT_TOUR_NGT_SP – Tourism statistics (tour_occ_ninat) - EXP

Coded format	CLT_TOUR_NGT_SP for IND_ACCT = P6 < C_RESID(FOR), NACE_R2(I551-I553), UNIT(NR) in tour_occ_ninat
Txt code	QC_XTABLES_EB_TOUR_EXP
Description	'Exports' of 'Nature-based tourism' should be smaller than then number of nights spent by foreign tourists at tourist accommodation establishments.
Threshold	0
Notification	WARNING

Cross-country comparison

Rule 17 – SERVICE FLOW / AREA	
Coded format	
Txt code	QC_outliers_per_area
Description	The check returns all case when the supply of an ecosystem service, except for pollination and local climate regulation – weighted aggregate by an ecosystem type per area of this ecosystem type reported in ECOEXT is outside the range defined by the 25 th and 75 th percentile of per area flows of all reporting countries.
Threshold	<25 th percentile, 75 th percentile>
Notification	INFORMATION

Annex 4 – Validation tools for ECOSERV, error reporting to countries and requested action

Validation tool step 1: Built-in macro functions in the ECOEXT questionnaire – pre-validation by countries using button ‘Validate questionnaire’

Summary	This step is to be performed by countries (or a similar, alternative of pre-validation is to be conducted if macro functions cannot be executed) <u>before the questionnaire is submitted to Eurostat.</u>
The tool examines compliance with rules	The following rules from Annex 1 of this document: • Rule 1a – CONTACTS DETAILS • Rule 1b – COUNTRY • Rule 2a – REFERENCE YEAR • Rule 3 – COMPLETENESS • Rule 4 – FLAGS • Rule 5a – NUMERIC • Rule 5b – MUST NOT BE NEGATIVE The following rules from Annex 2: • Rules 6a – 6j. AGGREGATION for crop provision and crop pollination • Rules 7a and 7b. AGGREGATION – SUPPLY and AGGREGATION – USE • Rule 10. SUPPLY - USE
Reporting of issues	Outcomes of pre-validation are shown in the questionnaire in two ways: cells associated with an issue are (i) shown as red (ERROR; yellow for WARNING) and (ii) listed in the ‘ErrorLog’ worksheet.
Required action by countries	Identified issues must be corrected before submitting the dataset via EDAMIS.
Consequence of corrections not implemented	In case of a country code or reference year missing (in the cells designated for this purpose), the dataset will be automatically rejected upon submission (i.e. it does not reach Eurostat’s database and no further examination can be performed). The country will receive an automated message via EDAMIS within a few minutes after the submission. In case of issues that are also covered by the CONTENT VALIDation tool (see Validation step 2b below), the dataset will be automatically rejected (i.e. it does not reach Eurostat’s database and no further examination can be performed). The country will receive an automated message via EDAMIS within a few minutes after the submission. In case of issues that are also covered by the SQL-based validation tool, these will be reported to the country in the validation report (see Validation step 3 below) within a few weeks after the submission.

Validation tool step 2a: STRUctural VALidation tool	
Summary	This step takes place automatically upon the submission of data by countries via EDAMIS to Eurostat and <u>incompliance results in an automated rejection of the dataset</u> . Errors of this kind should not occur unless countries have manipulated the questionnaire structure, deleted codes or formulas copying country code or the reference year from the 'GETTING STARTED' cover sheet to the data-reporting sheets ⁷ , or copy-pasted items beyond reporting cells.
The tool examines compliance with rules	Correctness of the data structure (using predefined codes for data dimensions) and the following rules from Annex 1 of this document: • Rule 1b – COUNTRY • Rule 2 – REFERENCE YEAR • Rule 4 – FLAGS • Rule 5a – NUMERIC
Reporting of issues	Outcomes of this validation step are summarized in an automated message ('FEEDBACK TRANSFER FOR DATASET ENVDATA_ECOSERV') sent to the compiler via EDAMIS containing text either 'ACCEPTED' or 'REJECTED'. Error details are available in the EDAMIS report available at the generated link.
Required action by countries	<u>Errors must be corrected and dataset resubmitted via EDAMIS.</u> Countries must not manipulate the structure of the questionnaire. This means adding or removing rows or columns in the reporting table, deleting hidden codes (which serve for structural validation and upload to Eurostat's internal database), or deleting formulas that copy the country code and reference year from the 'GETTING STARTED' cover sheet to the data-reporting sheets.
Consequence of corrections not implemented	Dataset is rejected (i.e. it does not reach Eurostat's database and no further examination can be performed).

⁷ The questionnaire is locked to reduce the risk of these issues occurring.

Validation tool step 2b: CONtent VALidation tool⁸	
Summary	This step takes place automatically upon the submission of data by countries via EDAMIS to Eurostat and incompliance <u>results in an automated rejection of the dataset.</u>
The tool examines compliance with rules	The following rules from this document: • Rule 2b – REFERENCE YEAR – EDAMIS • Rule 5b – MUST NOT BE NEGATIVE • Rule 8a – COMPARISON – PROV_CR ≥ PROV_POLN • Rule 12b – PROV_CRP – MFA (env_ac_mfa) – CONVAL • Rule 14c - REG_AIR_FL_PM10 – env_air_emis – CONVAL • Rule 14d – REG_AIR_FL_PM2_5 – env_air_emis – CONVAL • Rule 15b – REG_CO2_SEQ_NET – env_air_gge - CONVAL
Reporting of issues	Outcomes of this validation step are summarized in an automated message ('FEEDBACK TRANSFER FOR DATASET ENVDATA_ECOSERV') sent to the compiler via EDAMIS containing text either 'ACCEPTED' or 'REJECTED'. Error details are available in the EDAMIS report available at the generated link.
Required action by countries	<u>Errors must be corrected and dataset resubmitted via EDAMIS.</u>
Consequence of corrections not implemented	Dataset is rejected (i.e. it does not reach Eurostat's database and no further examination can be performed).

⁸ Currently, this step is limited to a small number of simple checks. The vision for the future is that checks currently performed in Eurostat's internal database using SQL will be performed by the CONVAL tool, as it is done for advanced domains of statistics. (i.e. the step of SQL-based validation in Eurostat's internal database will be discontinued/converted to the above.)

Validation tool step 3: Database validation (in Eurostat's internal database)

Summary	This step takes place after the data had been loaded to Eurostat's internal database (i.e. after a successful validation in steps 2a and 2b described above). The SQL-based validation comprises (i) internal consistency check within and between ECOSERV table 1 and 2; (ii) plausibility checks examining plausibility of the time-series; (iii) coherence with data from other environmental accounts, (iv) coherence with data from related fields of statistics and (v) cross-country comparisons.
The tool examines compliance with rules	The following rules from Annex 1 of this document: • Rule 3 – COMPLETENESS • Rule 4 – FLAGS • Rule 5b – MUST NOT BE NEGATIVE All rules included in Annex 2. All rules included in Annex 3 except for: • Rule 12b – PROV_CRP – MFA (env_ac_mfa) – CONVAL • Rule 14c – REG_AIR_FL_PM10 – env_air_emis – CONVAL • Rule 14d – REG_AIR_FL_PM2_5 – env_air_emis – CONVAL • Rule 15b – REG_CO2_SEQ_NET – env_air_gge - CONVAL
Reporting of issues	Outcomes of this validation step are summarized in the MS Excel validation report sent to countries via EDAMIS channel 'ENVDATA_ESERV_N'.
Required action by countries	Data points associated with WARNINGS need to be explained and justified. Data points associated with ERRORS need to be corrected. They can be accepted temporarily if the country and Eurostat agree on corrective measures to be implemented in future data collections.
Consequence of corrections not implemented	Data points reported by the validation report as ERRORS may be excluded from publication by Eurostat unless a satisfactory explanation is provided by the national compiler.

Annex 5 – Lists of codes

Code and respective heading for ecosystem services (ECOSERV)	
PROV_CR_MF11_12	Crop provision
PROV_CR_MF11	Crop provision, excluding fodder crops
PROV_CR_MF111	Crop provision, Cereals
PROV_CR_MF112	Crop provision, Roots, tubers
PROV_CR_MF113	Crop provision, Sugar crops
PROV_CR_MF114	Crop provision, Pulses
PROV_CR_MF115	Crop provision, Nuts
PROV_CR_MF116	Crop provision, Oil-bearing crops
PROV_CR_MF117	Crop provision, Vegetables
PROV_CR_MF118	Crop provision, Fruits
PROV_CR_MF119	Crop provision, Fibres
PROV_CR_MF11A	Crop provision, Other crops (excluding fodder crops) n.e.c.
PROV_CR_MF12	Crop provision, Crop residues (used), fodder crops and grazed biomass
PROV_CR_MF121	Crop provision, Crop residues (used)
PROV_CR_MF1211	Crop provision, Straw
PROV_CR_MF1212	Crop provision, Other crop residues (sugar and fodder beet leaves, etc.)
PROV_CR_MF122	Crop provision, Fodder crops and grazed biomass
PROV_CR_MF1221	Crop provision, Fodder crops (including biomass harvest from grassland)
PROV_CR_MF1222	Crop provision, Grazed biomass
PROV_POLN_MF11_12	Crop pollination
PROV_POLN_MF11	Crop pollination, excluding fodder crops
PROV_POLN_MF111	Crop pollination, Cereals
PROV_POLN_MF112	Crop pollination, Roots, tubers
PROV_POLN_MF113	Crop pollination, Sugar crops
PROV_POLN_MF114	Crop pollination, Pulses
PROV_POLN_MF115	Crop pollination, Nuts
PROV_POLN_MF116	Crop pollination, Oil-bearing crops
PROV_POLN_MF117	Crop pollination, Vegetables
PROV_POLN_MF118	Crop pollination, Fruits
PROV_POLN_MF119	Crop pollination, Fibres
PROV_POLN_MF11A	Crop pollination, Other crops (excluding fodder crops) n.e.c.
PROV_POLN_MF12	Crop pollination, Crop residues (used), fodder crops and grazed biomass
PROV_POLN_MF121	Crop pollination, Crop residues (used)
PROV_POLN_MF1211	Crop pollination, Straw
PROV_POLN_MF1212	Crop pollination, Other crop residues (sugar and fodder beet leaves, etc.)
PROV_POLN_MF122	Crop pollination, Fodder crops and grazed biomass

PROV_POLN_MF1221	Crop pollination, Fodder crops (including biomass harvest from grassland)
PROV_POLN_MF1222	Crop pollination, Grazed biomass
PROV_WD_MF13MEMO	Wood provision (increment cultivated)
PROV_WD_MF13	Wood provision (removals non cultivated)
REG_CO2_STO_CM30	Global climate regulation - storage 30cm
REG_CO2_STO_CM100	Global climate regulation - storage 100cm
REG_CO2_STO_WHL	Global climate regulation - storage whole depth
REG_CO2_SEQ_NET	Global climate regulation - net sequestration (indicator)
REG_CO2_SEQ_NET_PRIM	Global climate sequestration - primary net sequestration (ecosystem service)
REG_CL_RED_DEGC_GT25	Local climate regulation (cooling)
REG_CL_RED_DEGC_GT25_WT	Local climate regulation (cooling) - weighted
REG_CL_BEN_PER	Benefitting people (NR)
REG_AIR_FL_PM10	Filtered tonnes of PM10
REG_AIR_FL_PM2P5	Filtered tonnes of PM2.5
REG_AIR_FL_BEN_PER	Benefitting people
CLT_TOUR_NGT_SP	Overnight stays
CLT_REC_VIS	Visits

Code and respective heading for ecosystem types (ECOSYST)	
ECO01	Settlements and other artificial areas
ECO02	Cropland
ECO03	Grassland
ECO04	Forest and woodland
ECO05	Heathland and shrub
ECO06	Sparsely vegetated ecosystems
ECO07	Inland wetlands
ECO08	Rivers and canals
ECO09	Lakes and reservoirs
ECO10	Marine inlets and transitional waters
ECO11	Coastal beaches, dunes and wetlands
ECO12	Marine ecosystems
TOTAL	Total national area

Code and respective heading for the supply and use types (IND_ACCT)	
TS	Total supply
TU	Total use
P2	Intermediate consumption by industries
P3_S13	Government final consumption
P3_S14	Households final consumption
P5	Gross capital formation
P6	Export