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# COUNTRY PRACTICE IN ENERGY STATISTICS

Topic/Statistics:

Institution/Organization:

Country:

Date:

## CONTENTS

### 1. 1

<b>Abstract</b> .....	<b>3</b>
<b>2. General information</b> .....	<b>4</b>
2.1. Name of the statistics/topic .....	4
2.2. History and purpose.....	4
2.3. Reference period.....	4
2.4. Frequency .....	4
2.5. Dissemination.....	4
2.6. Regional level.....	4
2.7. Main users .....	4
2.8. Legal basis and legally binding commitments .....	5
2.9. Resource requirements .....	5
2.10. International reporting.....	5
<b>3. Statistical concepts, methodology, variables and classifications</b> .....	<b>5</b>
3.1. Scope 5 .....	5
3.2. Definitions of main concepts and variables.....	6
3.3. Measurement units.....	6
3.4. Classification scheme .....	6
3.5. Data sources .....	6
3.6. Population.....	6
3.7. Sampling frame and sample characteristics.....	7
3.8. Collection method .....	7
3.9. Survey participation/response rate.....	7
<b>4. The statistical production process</b> .....	<b>8</b>
4.1. Data capture and storage .....	8
4.2. Data editing .....	8
4.3. Imputation .....	8
4.4. Grossing up procedures .....	8
4.5. Analytical methods.....	8
<b>5. Dissemination</b> .....	<b>9</b>
5.1. Publications and additional documentation.....	9
5.2. Revisions .....	9
5.3. Microdata.....	9
5.4. Confidentiality.....	9
<b>6. Quality</b> .....	<b>10</b>
6.1. Relevance .....	10
6.2. Accuracy.....	10
6.3. Timeliness and punctuality .....	10
6.4. Accessibility .....	11
6.5. Comparability.....	11
6.6. Coherence and consistency.....	11
<b>7. Future plans</b> .....	<b>12</b>
<b>Annexes</b> .....	<b>1</b>

## Abstract

Write a short abstract of the statistics, and try to limit it to one page. The purpose of the abstract is to give the reader a general overview of the statistics/topic. It should therefore include a brief overview of the background and the purpose of the statistics, the population, the sample (if relevant), the main data sources, and the main users of the statistics. The abstract should also mention what is the most important contribution or issue addressed in the country practice (e.g. the practice deals with challenges of using administrative data, using of estimation, quality control, etc.). If there are other elements that are considered important, please feel free to include them in the abstract.

Keep in mind that all relevant aspects of the statistical production will be covered in more detail under the different chapters in the template. Therefore, the abstract should be short and focused on the key elements. What the most important elements are can vary from statistics to statistics, but as a help to write an abstract you can use the table below. The table can either replace a text or can be filled out in addition to writing a short text.

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Key elements	
<b>Name of the statistics</b>	National Statistics Program: TER-00001 (RE-E)
<b>Background and purpose of the statistics</b>	Number, capacity, generation of RE-E sets
<b>Population, sample and data sources</b>	Registered and non-registered population
<b>Main users</b>	Public
<b>Important contribution or issue addressed</b>	RE-E data contributions to National Energy Balance and to Directive 28/2009/EC target accomplishment monitoring
<b>Other remarks</b>	

## 2. General information

### 2.1. Name of the statistics/topic

The statistics/topic could either be a specific energy statistics (e.g. electricity production) or a topic within energy statistics (e.g. energy balances). For more information, please see Section III of the Instructions.

Renewable Electricity Production (number, capacity, generation, incentives) by source

### 2.2. History and purpose

State when the statistics were first published.

2006

Describe briefly the main purpose of producing the statistics and why it is relevant.

Providing data on renewable electricity deployment to the public and to the policy makers to calibrate supporting policy

### 2.3. Reference period

State the time period the data are collected for.

From 2005 upwards

### 2.4. Frequency

Specify how often the statistics are disseminated (e.g. annually, monthly, quarterly, etc.). If the statistics are not produced at regular intervals, state at what times they have been produced in the past and the main reasons behind the irregularities.

Yearly for each source. Daily data as number and capacity for PV plants that apply for incentives

### 2.5. Dissemination

Describe how the statistics are published (e.g. printed publications, online publications, online databases, etc.). If applicable, include the web address to the main website of the statistics.

Printed and online publications. Web-geostatistics for wind and PV generation

### 2.6. Regional level

State the lowest geographical level (e.g. administrative regions, municipalities, etc.) for which the statistics are made available to the public.

Municipalities for PV plants benefitting incentives. Regional and provincial level for any source.

### 2.7. Main users

Identify the key users of the data and the main applications. Include both internal and external users, and if possible try to distinguish between end users and others.

Policy makers, public institutions, consultancies, researchers, universities and academies

Write the name of the institution and department/office with the main responsibility for disseminating the statistics (e.g.: Statistics Norway, Department of Economics, Energy and the Environment).

GSE-Directorate of Studies, statistics, services-Statistical Office

## 2.8. Legal basis and legally binding commitments

State the national legal basis for the data collection. Include a complete reference to the constitutional basis, and web address to an electronic version (e.g.: The Statistics Act of 16 June 1989 No. 54, §§2-2 and 2-3, [http://www.ssb.no/english/about\\_ssb/statlaw/forskrift\\_en.html](http://www.ssb.no/english/about_ssb/statlaw/forskrift_en.html)).

DPCM of 25 November 2009 (GU n. 29 del 5-2-2010) on official statistics membership; Decree of Economic Development Ministry of 14 January 2012 on renewable statistics

If the data collection is not based on a legal basis, give a short description of other agreements or volunteer arrangements.

If applicable, give reference to national and international commitments that are legally binding (e.g. EU statistical legal acts).

EU statistical legal acts

## 2.9. Resource requirements

Specify how the production of the statistics is financed (e.g. over the ordinary budget, project based support, financial support from other institutions or organization). If applicable, state the contracting entity (e.g.: Ministry, EU Commission, OECD). A contracting entity is any entity which is ordering a survey or the compilation of a statistics, and paying for it

Ordinary budget

Specify the resource requirements for producing the statistics (e.g. man-labour days, number of workers involved in the statistical production process of the statistics/topic in question).

6 workers per year,

## 2.10. International reporting

List any international organizations and names of reporting schemes that the statistics are reported to. If available, also include the website where the reported data are published (e.g. International Energy Agency, Monthly Oil Statistics, UNSD, etc.).

Contribution to IEA, Eurostat via Economic Development Ministry

# 3. Statistical concepts, methodology, variables and classifications

## 3.1. Scope

Describe the scope of the statistics (e.g. the statistics cover supply and use of all energy products in Norway, classified according to International Standard Industrial Classification of All Economic Activities – ISIC).

Solar electricity generation in Italy; Renewable electricity generation in Italy in association with Terna

### 3.2. Definitions of main concepts and variables

Describe the main concepts (e.g.: territory principle, resident principle, net calorific value, gross calorific value).

Territory principle; resident principle

Describe the main variables (e.g. how are the different energy products defined in the statistics? How are production, intermediate consumption, final consumption, transformation, feed stock, the energy sector, etc. defined?).

Country wide number, capacity, generation, Value of incentives given to RE-E generation sets by kind and source

### 3.3. Measurement units

Describe in what unit the data is collected (e.g. physical unit (m<sup>3</sup>, metric tons), monetary unit (basic prices, market prices)). Describe in what unit the data is presented. Describe if the calorific values are collected (e.g. on a net vs. gross basis) and how they are used.

If applicable, describe the density of the energy product(s) and the estimated *thermal efficiency coefficients* of different energy products and consumer groups or by appliance. Thermal efficiency coefficient indicates the share of the energy products which is actually usable for end consumption. Descriptions of density and thermal efficiency coefficient could alternatively be put in an annex.

Physical unit (n, kW, MW, GWh, TWh), currency unit (kEuro, MEuro) at current prices

### 3.4. Classification scheme

Include references to relevant international and national standard classifications. If national, give a brief description of the standards. If available, include web addresses to the electronic version of the standards).

### 3.5. Data sources

Give an overview of the different data sources used in the collection and compilation of the statistics/topic (e.g. household survey, enterprise/establishment survey, administrative data/registers, foreign trade statistics, production statistics and other primary/secondary data sources).

Examples of administrative sources/registers are: business register for enterprises and establishments, population register, land register, housing and building registers, tax registers, international trade registers, etc.

In-house administrative registers, Renewable energy undertakings survey via web tools, phone calls

### 3.6. Population

Describe the entire group of units which is the focus of the statistics (the population).

Renewable electricity generation sets

Specify the following statistical units:

- Reporting unit

- Observational unit
- Analytical unit

Examples of different kind of statistical units include: enterprise, enterprise group, kind-of-activity unit (KAU), local unit, establishment, homogeneous unit of production.

In most cases the reporting unit, observational unit and analytical unit are identical, but there are examples where this is not the case. In electricity statistics, you may find that energy companies (the reporting unit) provide data about different consumers like the individual household or manufacturing company (the observational unit). The analytical unit may be a group of energy consumers, defined by the ISIC.

Reporting unit
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### 3.7. Sampling frame and sample characteristics

Describe the type of *sampling frame* used in the collection and compilation of the statistics (e.g. list, area or multiple frames). A sampling frame is the source material or device from which a sample is drawn. Note that the sampling frame might differ from the population.

N/A
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For each survey(s) used for the compilation of the statistics, specify the *sampling design* (e.g. random, stratified, etc.). Describe the routines employed for updating the sample. Include information about the sample size, and discuss to what extent the sample covers the population (e.g. energy consumption in the sample compared to total energy use by the population).

Note that chapter 2.7: *Sample frame and sample characteristics* may overlap with chapter 3.4: *Grossing up procedures*.

N/A
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### 3.8. Collection method

For each survey used for the compilation of the statistics/topic, describe how the data are collected (e.g. face-to-face, telephone, self-administered, paper and internet-based questionnaires, or administrative data and registers).

Self-administered administrative data and registers, calls for filling forms
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### 3.9. Survey participation/response rate

For each survey used for the compilation of the statistics/topic, specify the average response rate, or refer to response rates for specific surveys conducted.

N/A
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## 4. The statistical production process

### 4.1. Data capture and storage

Describe how the data is captured and stored (e.g. if the respondent replies using Internet-based questionnaire, the received data are electronically transferred to the production database. Paper questionnaire responses are keyed manually to the production database).

Internet-based applications and questionnaires

### 4.2. Data editing

Describe the regular routines employed for detecting and correcting errors. This may include:

- Manual routines for detecting and correcting errors
- Automatic error-detection (and correction)
- Micro- and macro editing procedures
- Data validation procedures
- Outlier identification
- Processes and sources used for quality controls

Manual routines, automatic error-detection, data validation procedures

### 4.3. Imputation

Describe the principles for imputation and the assumptions that these principles are based on. Note that this chapter may overlap with chapter 3.2: *Data editing* and chapter 5.2: *Accuracy*

### 4.4. Grossing up procedures

Describe how the population is divided into strata and what statistical models the estimations in the strata are based on. Describe how sub-indices are combined into aggregate indices and how uncertainty is estimated.

### 4.5. Analytical methods

Give a description of any analytical methods used to adjust the data (e.g.: seasonal adjustment and temperature adjustment). A more detailed description of the analytical method can also be included as an annex.

Seasonal adjustments



## 5. Dissemination

### 5.1. Publications and additional documentation

Describe the form of dissemination of the statistics/topics in question (e.g. printed publications, website, etc.). Please provide relevant website link(s) if available.

Printed and web publications; Hard copy delivery at national and international exhibitions; web geo-statistics

Give a complete reference to publicly available statistics databases where data from the statistics can be extracted. Include web addresses if available online.

<http://www.gse.it/it/Dati%20e%20Bilanci/Osservatorio%20statistico/Pages/default.aspx>

Indicate whether you charge users for access to the statistics at any level of aggregation.

NO

### 5.2. Revisions

Describe the current revision policies. E.g.: Is historical data revised when new methodology, new definitions, new classifications etc. are taken into use? Is the data continuously revised, or is the data revised at certain points in times (e.g. every third year, annually, etc.)?

Yes, annually

If applicable, describe any major conceptual or methodological revisions that have been carried out for this statistic/topic in the past.

N/A

### 5.3. Microdata

Describe how microdata are stored.

Large DB

Specify if microdata are available for scientific and/or public use. If so, describe under what conditions these are made available.

Only aggregate figures to comply with statistical confidentiality

### 5.4. Confidentiality

Describe the legal authority that regulates confidentiality, and what restrictions are applied to the publication of the statistics.

Privacy Protection Authority; National and EU statistical code and guidelines

Describe the criteria used to suppress sensitive data in statistical tables (cell suppression).

Upgrading the level of aggregation to comply with the less than 3 statistical units to show.

Describe how confidential data are handled.

File transfer secured by userid and PW and controlled access to DB

Describe any confidentiality standards that go beyond what is legally required.

Written commitment to confidentiality underwritten by the members of the statistical office

## 6. Quality

### 6.1. Relevance

State to which degree the statistical information meet the real needs of clients/users.

90%

### 6.2. Accuracy

State the closeness of computations or estimates to the exact or true values that the statistics were intended to measure.

90%

#### Measurement and processing errors

Discuss the measurement and processing errors that are relevant for the statistics. Try as far as possible to give an estimation of the size and scope of the errors.

Use of indicators and error ranges to check data recorded and retrieved from registers

#### Non-response errors

State the size of the unit non-response and the item non-response, distributed by important variables in the population (e.g. region, industry). Consider if the non-response errors are systematic, and if so, describe the methods used to correct it. Indicate whether the effects of correcting non-response errors on the results have been analysed, and, if so, describe them.

Unknown

#### Sampling errors

Discuss the size of the sampling errors. Compare the population and sample with regards to important properties (e.g. coefficient of variance).

#### Other sources of error

Discuss other sources of errors that might be relevant for the statistics. E.g.: Model assumption errors, coverage errors

### 6.3. Timeliness and punctuality

Specify the time between the end of the reference period and publication.

If the statistics are published both as preliminary and final figures, specify the time between publication of preliminary and final figures. You should also point out whether the publication date is

set according to certain rules (e.g. advance release calendar, a specific day or prior to other publications).

Four months for PV data issuing (the first week of May); Six months for the issuing of other RE-E official data, subject to the accomplishment of the cooperative work with another statistical office.

Point out if there have been any major discrepancies between the planned publication date and the actual publication date in recent years. If so, state the length of this discrepancy and its cause.

Minor discrepancies with regard to RE-E yearly preliminary data at + 2 months

#### **6.4. Accessibility**

Describe how easily accessible the statistics are. In particular, is there an advance release calendar to inform the users about when and where the data will be available and how to access them?

Are metadata and other user support services easily available? Are there particular groups that don't have access to the published statistics (e.g.: visually disadvantaged)?

Visually disadvantaged people cannot benefit directly of statistics, for the time being.

#### **6.5. Comparability**

Discuss the comparability of the statistics over time, geographical areas and other domains.

##### **Comparability over time**

Discuss comparability over time and include information about whether there have been any breaks in the time series of the statistics and why. Also describe any major changes in the statistical methodology that may have had an impact on comparability over time.

Very good comparability over time

##### **Comparability over region**

Discuss comparability over geographical areas, and include information about whether the statistics are comparable to relevant statistics published by other countries and/or international organisations.

Very good comparability as we follow Eurostat and IEA statistical principles

##### **Comparability over other domains**

Discuss comparability over domains, and include information about whether the statistics are comparable between different industries, different types of households etc.

Good comparability of data

#### **6.6. Coherence and consistency**

Discuss the coherence/consistency between preliminary and final figures.

Usually very high for generation data

Discuss the coherence/consistency between monthly, quarterly or yearly statistics within the same subject area. Can the results of different frequencies for the same reference period be combined in a reliable manner?

No reliable experience for the time being.

Discuss the coherence/consistency with other related statistics (also those produced by other institutions/organisations on the same subject).

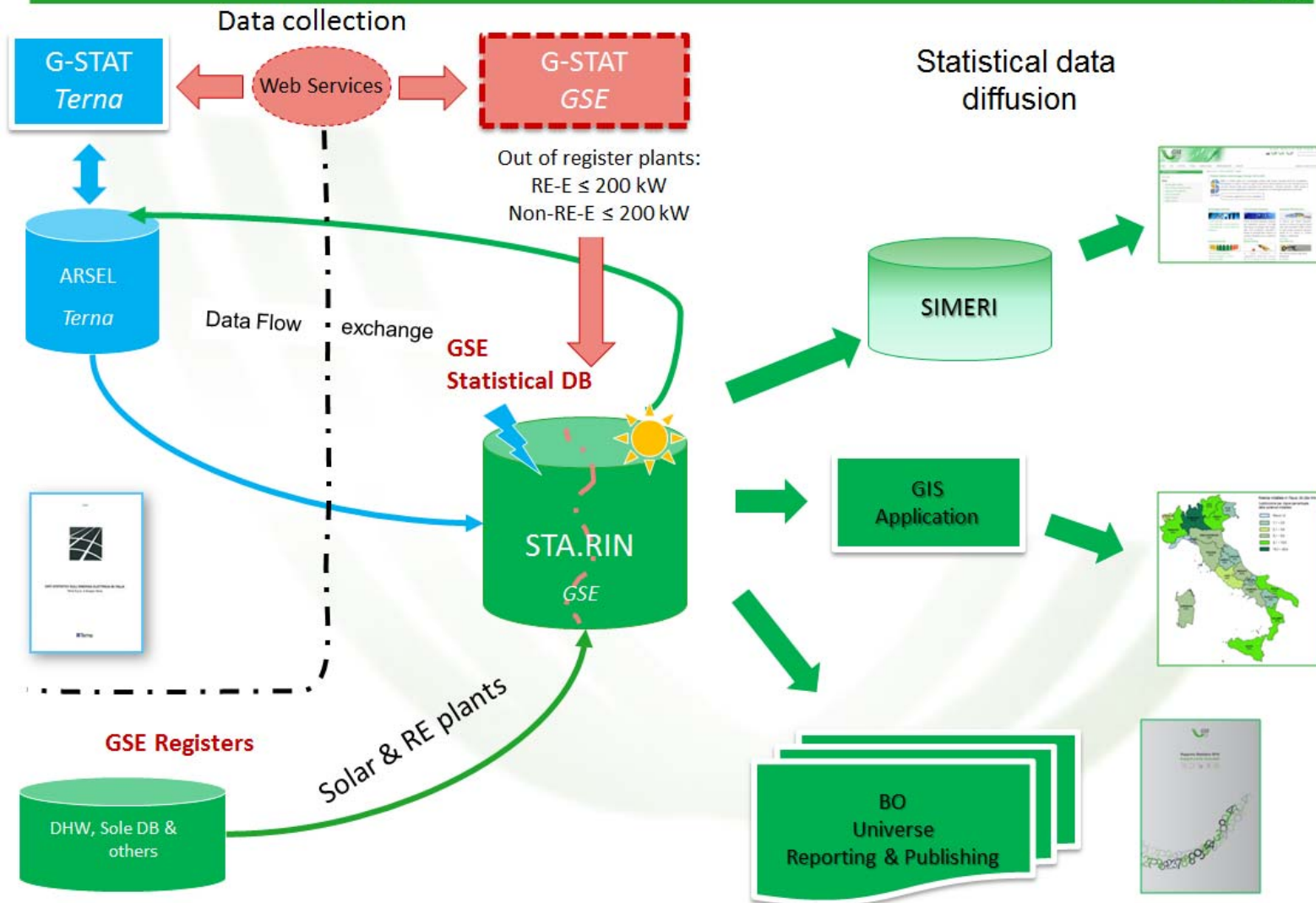
Common definitions, comparable methodology with Eurostat/IEA/Eurelectric

## **7. Future plans**

Are there any current or emerging issues that will need to be addressed in the future? These could include gaps in collection, timeliness issues, data quality concerns, funding risks, confidentiality concerns, simplifications to reduce respondents' burden etc.?

Close likely gaps in retrieving data of the whole RE-E existing (old) sets

RE-E Statistics Registers, DB, data flow for Italian Electricity Statistics





## ANNEX II- Example of data publication

### PV generation sets by ground impact - 2011

Regione	Ground sited		Roof	Total	Ground sited
	mq	MW	MW	MW	%
Piemonte	8,022,679	463.2	607.3	1,070.5	43.3
Valle d'Aosta	19,851	1.7	12.2	13.9	12.4
Lombardia	3,323,589	210.6	1,111.0	1,321.6	15.9
Trentino Alto Adige	111,232	7.5	292.3	299.8	2.5
Veneto	5,532,968	345.9	811.5	1,157.4	29.9
Friuli Venezia Giulia	1,336,838	75.6	220.2	295.8	25.6
Liguria	19,895	1.9	51.7	53.6	3.5
Emilia Romagna	10,105,586	607.7	659.3	1,267.0	48.0
Toscana	3,422,445	207.7	260.8	468.5	44.3
Umbria	2,745,807	158.7	159.9	318.6	49.8
Marche	8,734,983	503.0	283.6	786.6	64.0
Lazio	10,791,727	574.3	287.0	861.3	66.7
Abruzzo	4,813,798	289.2	162.4	451.5	64.0
Molise	1,465,187	85.5	31.5	117.0	73.1
Campania	1,835,834	132.8	243.2	376.0	35.3
Puglia	33,751,101	1,815.5	370.7	2,186.2	83.0
Basilicata	2,700,217	152.1	69.9	221.9	68.5
Calabria	1,010,041	59.5	177.6	237.2	25.1
Sicilia	8,935,746	522.0	343.8	865.7	60.3
Sardegna	1,577,163	92.8	310.4	403.2	23.0
<b>Italia</b>	<b>110,256,686</b>	<b>6,307.4</b>	<b>6,466.0</b>	<b>12,773.4</b>	<b>49.4</b>

## Annexes

### Illustrations and flowcharts

Illustrations and flowcharts are useful to summarize information and to get a better overview of the statistical production process. Illustrations and flowcharts can either be placed in annexes or be included under relevant paragraphs in the template.

E.g.:

- A conceptual flowchart which illustrates the flow of data in the production of the statistics.
- A flowchart which illustrates the main tasks in the production process and the dependency between them.

### Time schedule

Include a time schedule for the different phases of the statistical production process. The statistical production process *may* be divided into the following phases. Phase 1-3 may only be relevant for when a new statistics/survey is set up.

1. **Clarify needs** (e.g. map users needs, identify data sources)
2. **Plan and design** (e.g. plan and design population, sample size, how to analyze and edit data)
3. **Build** (e.g. build and maintain production system, test production system)
4. **Collect** (e.g. Establish a frame, draw the sample, collect data)
5. **Edit** (e.g. identify and code micro data, edit data, imputation)
6. **Analyse** (e.g. quality evaluation, interpret, analyse)
7. **Disseminate** (e.g. publish data, user contact)

### Questionnaires

Include the complete questionnaire(s)/survey form(s) used

### Example of publication tables

Include an example of a typical table published for the statistics. Include web addresses if available online.

### Detailed description on analytical methods

If relevant, a detailed description of analytical methods used in the statistical production (like seasonal adjustment, temperature adjustment etc.) may be described in an annex. A short description can also be included in chapter 3.5: Analytical methods or under other suitable chapters.