COUNTRY PRACTICE IN ENERGY STATISTICS

Topic/Statistics: Energy statistics

Institution/Organization: Statistical Office of the Republic of Slovenia

Country: Slovenia

Date: April 3, 2012

CONTENTS

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.

Key elements	
Name of the statistics	Energy statistics
Background and purpose of the statistics	The purpose of the energy statistics is to monitor the energy situation in Slovenia. Energy statistics on supply, trade, stocks, transformation and consumption are the basis for the energy policy in the country.
Population, sample and data sources	The focuses of the statistics are all energy producers and consumers in the country – it depends on the survey (mining, manufacturing and construction sectors, households etc.). The most important sources are business surveys and the household survey; some data are also obtained from the administrative sources. Sampling is used for the survey on the consumption of energy and stocks in mining, manufacturing and construction and for the survey on household energy consumption.
Main users	Main users are: public administration (ministries, agencies etc.), research institutions, educational institutions, researchers, international institutions (Eurostat, OECD, IEA etc.)
Important contribution or issue addressed	The important contribution is reducing the burden on reporting units by taking over data from administrative sources which are also important for the improvements of the statistics such as the renewable energy sources statistics.
Other remarks	/

1. General information

1.1. 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.

Energy statistics

1.2. History and purpose

State when the statistics were first published.

The statistics were first published in 2001.

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

The purpose of the energy statistics is to monitor the energy situation in Slovenia. Energy statistics on supply, trade, stocks, transformation and consumption are the basis for the energy policy in the country.

1.3. Reference period

State the time period the data are collected for.

The data are collected for the month or year prior to the questionnaire date.

1.4. 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.

The statistics are disseminated monthly and yearly.

1.5. 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.

The statistics are disseminated mostly on our website (http://www.stat.si/eng/index.asp) and SI-STAT Data Portal (http://pxweb.stat.si/pxweb/Dialog/statfile1.asp). We also publish different publications; all of them are available online (http://www.stat.si/eng/pub.asp)

1.6. Regional level

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

The statistics are available only on the national level.

1.7. 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.

Main users are: public administration (ministries, agencies etc.), research institutions, educational institutions, researchers, international institutions (Eurostat, OECD, IEA etc.)

1.8. Responsible authority

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).

Statistical Office of the Republic of Slovenia, Department of Environment and Energy Statistics

1.9. 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).

The legal bases are the National Statistics Act (OJ RS, No. 45/95 and 9/2001), medium-term and annual programmes of statistical surveys issued on the basis of the National Statistics Act and the Energy Act (OJ RS, No. 79/1999 with all amendments). The National Statistics Act: http://www.stat.si/doc/drzstat/ZAKON_O_DSTA_ENG.PDF Medium-term Programme of Statistical Surveys 2008-2012: http://www.stat.si/doc/drzstat/SPSR-ang.pdf At the moment the annual programmes are available only in the Slovene language.

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

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

Regulation (EC) No 1099/2008 on energy statistics.

1.10. 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

The statistics is financed over the 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).

Number of workers permanently involved in producing Energy statistics is 3.

1.11. 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.).

Statistics are reported to IEA EUROSTAT and UN. Names of questionnaires are monthly electricity, gas, oil and solid fuels questionnaires, monthly short electricity and gas questionnaires, monthly JODI, JODI expanded and JODI gas questionnaires, half year mini Electricity and Heat, Oil, Gas, Renewables and Coal questionnaires, Semi-annual Prices, monthly Gas Trade Flows questionnaire, monthly UN bulletin, annually Electricity and Heat, Oil, Gas, Renewables and waste, Solid Fuels and Competition indicators questionnaires.

2. Statistical concepts, methodology, variables and classifications

2.1. 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).

The statistics cover supply and use of all energy products in Slovenia, classified according to the Slovenian Standard Classification of Activities (SKD 2008) which is comparable to the Statistical Classification of Economic Activities in the European. Community – NACE Rev.2.

2.2. Definitions of main concepts and variables

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

We use the territory principle, natural units for each energy commodity and standard calorific values.

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?).

Energy products are defined according to IEA's Energy Statistics Manual. The main variables are production, transformation, feed stock, supply and final consumption by energy sources; consumption of energy and stocks in mining, manufacturing and construction by energy sources and SKD activities and consumption in households by energy sources and end use.

2.3. Measurement units

Describe in what unit the data is collected (e.g. physical unit (m3, 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.

The data is collected and presented in commonly used physical or energy units and monetary units (energy prices).

2.4. 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).

We use the Slovenian Standard Classification of Activities (SKD 2008) which is comparable to the Statistical Classification of Economic Activities in the European Community – NACE Rev.2. Website dedicated to classifications: http://www.stat.si/eng/klasje.asp

2.5. 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.

The most important sources are business surveys and the household survey. Some data are obtained from the administrative sources such as the data from the Slovenian Environment Agency etc.

2.6. Population

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

The focus of the statistics is on all energy producers, traders, importers, exporters, distributors, and consumers in the country – it depends on the survey (mining, manufacturing and construction sector, households etc.).

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.

The reporting and observational units are in most cases identical.

2.7. 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.

The sampling frame for the survey on the consumption of energy and stocks in mining, manufacturing and construction is the Business Register of Slovenia. The sampling frame for the survey on household energy consumption is the Central register of the population.

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.*

See the item 3.4.

2.8. 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).

For the compilation of the statistics we mostly use e-questionnaires (sent by e-mail). Paper questionnaires are used for the survey on the consumption of energy and stocks in mining, manufacturing and construction and computer-assisted telephone (CATI) interviewing or computer-assisted personal (CAPI) interviewing are used for the household survey.

2.9. 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.

The average response rate varies from 68% (household survey) to 100% (business surveys).

3. The statistical production process

3.1. 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).

Paper questionnaires are keyed manually into the programme Blaise (statistical programme for data capture and editing) and later stored in the Oracle database. Data from the household survey (CATI and CAPI) are put directly into Blaise while interviewing and are later stored in the Oracle database.

3.2. 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

The data are reviewed manually or automatically. For detecting and correcting errors we use different programmes – it depends on the type of the survey. Programmes that we usually use are: Excel, SAS and Blaise. Blaise is the programme for logical control in which we integrate many logical controls. They are used to prevent mistakes during the interviewing or for correction of the errors made by reporting units or the person who keyed the data (for the surveys with manual input of data from the questionnaires).

3.3. 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*

Imputation is performed only in the household survey. For the process of imputation we use the data based on auxiliary questions or a hot-deck method.

3.4. 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.

The sampling plan for the household survey is stratified in two stages. It is explicitly stratified by type of the settlement (by size and share of agricultural households) and statistical region and implicitly stratified by the presence of a farm, by the main heating system in the building, age of the building and the number of dwellings in the building.

The data are grossed up after imputations and editing. The aim of grossing up is to improve the representativeness of the sample so that sample represents the surveyed population as closely as possible. Data are grossed up because of different probability of selection, non-response and adaptation to known population composition. For the adaptation we use statistical regions, settlement types and data from the Real Estate Register: number of inhabited dwellings, age and type of buildings and main type of heating in dwellings.

For the target variables we calculate the precision of the estimates. Precision criteria are determined by the relative standard error or the coefficient of variation (CV). If the coefficient of variation (CV) of the estimate is:
- 10% or below (CV <= 10%), the estimate is of acceptable precision and is published without limitations;
- in the interval from 10% to 30% (10% <CV <= 30%), the estimate is less precise and is flagged for caution with letter M;
- over 30% (CV> 30%), the estimate is too imprecise to be published and therefore suppressed for use by letter N.

3.5. 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.

For the energy statistics we don't use any analytical methods to adjust the data.

4. Dissemination

4.1. 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.

Statistics are disseminated in printed publications and on our website: http://www.stat.si/eng/index.asp

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

Publicly available database: SI-STAT Data Portal: http://pxweb.stat.si/pxweb/Dialog/statfile1.asp

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

We usually don't charge for the statistics.

4.2. 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.)?

The data are not continuously revised. Data are revised when recent, completed and more quality data respectively can significantly contribute to the quality of data-based decision-making and when due to publication deadlines determined by the European legislation less accurate data are published on the basis of incomplete coverage.

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

No such revisions were done in the past.

4.3. Microdata

Describe how microdata are stored.

Microdata are stored on the local computers and in the Oracle database.

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

In Slovenia, the entities entitled to obtain the statistically protected microdata include the registered research institutions, registered researchers, and the researchers of government offices. Statistically protected microdata cannot be obtained for non-statistical purposes. Data is provided according to a prescribed procedure, which includes submitting the request for microdata to the Data Protection

Committee. Further on this topic is described on the website:
http://www.stat.si/eng/drz_stat_mikro.asp

4.4. Confidentiality

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

Statistical confidentiality is regulated based on the National Statistics Act. All publication tables must be statistically protected if their disclosure might interfere with the information privacy of individuals or interests of business entities.

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

Data are suppressed if less than 3 units contribute to their value or if one reporting unit represents more than 60% of the total value.

Describe how confidential data are handled.

Confidential data are not published – the letter "z" is published instead.

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

There are no such standards.

5. Quality

5.1. Relevance

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

The statistical information mostly meets the real needs of clients/users.

5.2. Accuracy

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

For the target variables in sample surveys we calculate the precision of the estimates as described in 3.4.

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.

Sampling and non-sampling errors occur especially in sample surveys as explained later.

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.

The average unit non-response rate varies from 32% (household survey in 2010) to 0% (business surveys). Item non-response in business surveys is 0, as all units who don't give all the data are

contacted for the clarification. Average item non-response in the household survey was 2% (for the year 2010). All target variables which had item non-response were imputed.

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

Dealing with sampling errors is described in item 3.4.

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

Other relevant errors are over or under-coverage errors and measurement errors.

5.3. 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).

Some of monthly statistics are published 25 days after the end of the reference period and others 30 days after the end of the reference period. Prices are reported 2 months after half-year period. Annually statistics first estimations are published after 4.5 months and regular annual statistics 9 month after the end of the reference period. Competition Indicator is reported 11 months after reference year. The publication dates are set in advance and are published in the release calendar.

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.

There haven't been any major discrepancies between the planned and actual publication dates in the recent years.

5.4. 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)?

We have the advance release calendar available on our website: http://www.stat.si/eng/koledar.asp
Users can use RSS channels to follow the release calendar.
Registered users of the SI-STAT Data Portal receive notification of the updated data. Metadata and other support services are available.
We are planning to renew our website which will be adjusted to visually disadvantages.

5.5. 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.

The majority of statistics is available from the year 2000 and the data are comparable over time. There was a break in time series for the data on consumption of energy and stocks in mining, manufacturing and construction – from 2008 onwards a revised version of the Standard Classification of Activities has been used and the data for the previous years are not directly comparable.

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.

The statistics are comparable within the European Statistical System.

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.

The data on consumption of energy and stocks in mining, manufacturing and construction are comparable between different industries by SKD domains.

5.6. Coherence and consistency

Discuss the coherence/consistency between preliminary and final figures.

Monthly energy statistics data for the last 12 months are provisional. With each release the data for the last 12 months can be corrected and supplemented with new data. After 12 months the data become final. Annual energy statistics are final.

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?

Monthly and yearly data within the same subject area are completely coherent and consistent.

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

There are no other comparable data in the country.

6. 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.?

We are planning to establish the electronic reporting of the data.

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 places 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

All questionnaires are available on our website: http://www.stat.si/metodologija_vpr.asp (only in the Slovene language).

Example of publication tables

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

All the data are available in the SI-STAT Data Portal where users can make a selection of categories to view, save it in different formats and subscribe for notification of the updated data (only for registered users).

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.