COUNTRY PRACTICE IN ENERGY STATISTICS

Topic/Statistics: Official Energy Statistics

Institution/Organization: Statistical Service of Cyprus

Country: Cyprus

Date: 12/04/2012

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.

Energy statistics in Cyprus are produced and disseminated by the Statistical Service of Cyprus (CYSTAT).

Key elements	
Name of the statistics	1. Imports of petroleum products 2. Sales of petroleum products 3. Stocks of petroleum products 4. Energy production from renewable sources 5. Electricity production, consumption and installed capacity of electric generators
Background and purpose of the statistics	Monthly and annual data on the above are disseminated both nationally and to Eurostat. They are the main aspect of the statistical production process and the most time consuming. The aim is to have reliable historical data of high statistical quality so that they can be comparable both over space and time.
Population, sample and data sources	Data is gathered mainly from administrative sources. Also, every month all companies established in Cyprus which import petroleum products are required to fill in a specific table with the necessary data and send it to CYSTAT.
Main users	Researchers, the general public, policy makers, media, international organisations.
Important contribution or issue addressed	The present country practice focuses on the data collection method used to obtain the necessary data from administrative sources and enterprises as well as on the timeliness of statistics.
Other remarks	A one-off survey on the energy consumption in households was carried out for the reference year 2009. Information on this survey was not included in this description.

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.

1. Imports of petroleum products
2. Sales of petroleum products
3. Stocks of petroleum products
4. Energy production from renewable sources
5. Electricity production, consumption and installed capacity of electric generators

1.2. History and purpose

State when the statistics were first published.

Data for most of the above topics are available since the 1960s. However, the first time they were published on the web in their current format was in January 2002.

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

The main purpose is to have a historic record of these statistics in order to be available for interpretation and analysis by interested parties.

1.3. Reference period

State the time period the data are collected for.

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.

Monthly and annually.

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.

Data on imports, sales and stocks of petroleum products are published on the official website of the Statistical Service of Cyprus every month. They are also consolidated and published there on an annual basis. Furthermore, energy statistics are available in the country's Statistical Abstract and other annual publications (eg. Industrial Statistics, Cyprus in Figures).The data are also transmitted to Eurostat on a monthly as well as on an annual basis, in accordance with the provisions of Regulation (EC) No. 1099/2088 on energy statistics.

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.

No statistics is produced at regional 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.

Researchers, the general public, policy makers, media, international organisations.

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).

The Statistical Service of Cyprus (CYSTAT).

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 Statistics Law, No. 15(I) of 2000 is the legal basis for data collection and renders the provision of information to the Statistical Service as obligatory.
http://www.cystat.gov.cy/mof/cystat/statistics.nsf/All/E2AB7488CA1C7FDDC2256C6F005374A7/$file/Statistics%20Law%202000.pdf?OpenElement

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).

Data collection fulfils the Energy Statistics Regulation (EC) No 1099/2008 monthly and annual requirements concerning stocks, imports and sales of petroleum products, as well as data on electricity production, consumption and installed capacity of electric generators and renewable energy production. The latter dataset is also collected in response to requirements of the Renewable Energy Directive No. 2009/28/EC.

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 production of the above mentioned energy statistics is financed through the ordinary budget of the Statistical Service of Cyprus.

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).

Only one officer is involved in the statistical production process, who is working full-time on the topic.

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.).

Eurostat, IEA

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 the supply and use of all energy products in Cyprus.

2.2. Definitions of main concepts and variables

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

International (Eurostat) recommendations and the Energy Statistics Manual prepared by IEA in cooperation with Eurostat are being followed.

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?).

Imports, sales, stocks, production and consumption of energy products.

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.

Quantities of petroleum products are measured in metric tonnes.
Quantities of electricity production are measured in kWh.

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).

Energy consumption by individual activity is classified by NACE Rev. 2.

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.

Data sources include mostly administrative sources such as the Electricity Authority of Cyprus, the cement industry, the Cyprus Organisation for Storage and Management of Oil Stocks, the Cyprus Petroleum Storage Company, the Cyprus Transmission System Operator and the Cyprus Energy Regulatory Authority. Data on imports of petroleum products are obtained from custom declarations which are processed for external trade statistical purposes. Finally all local commercial petroleum companies provide data concerning the imports, sales and stocks of petroleum products.
Based on the requirements of Eurostat's questionnaires, CYSTAT has formulated certain templates to be filled in by each of the above respondents. These templates are specific for each respondent so that the necessary input data is collected with minimum burden on the corresponding party and with high quality, since we are very precise as to what pieces of data are needed, in which units, how they will be presented etc.

2.6. Population

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

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.

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.

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.*

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).

All data sources described in Section 2.5 are aware that they need to send the relevant data every month. A reminder email is sent to those who do not provide the required information on time. If necessary, follow-up telephone calls are made. Gathered data are then internally processed as necessary.

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.

There is 100% response rate.

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).

Data received are keyed manually in the production 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

Received data are compiled and/or consolidated in specially designed workbooks which are identical to the questionnaires sent to Eurostat. These guidance workbooks contain explanatory notes, automatic error-detection routines as well as validation formulae which instantly indicate if and where an error has occurred. When data are thoroughly checked for such errors, they are crosschecked with other data sources (if available). In cases where there are discrepancies between the two different sources, telephone calls are made to resolve the difference.

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*

There is no need to impute missing values as there is no non-response.

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.

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.

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.

Data are disseminated in the official website of the Statistical Service of Cyprus every month. They can be found at www.cystat.gov.cy.

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

Data on Cyprus can be extracted from the official database of Eurostat.

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

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 need for revisions is very rare.

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

4.3. Microdata

Describe how microdata are stored.

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

According to the Statistics Law, No. 15(I) of 2000, it is possible to have access to microdata solely for scientific research following the submission of a written request describing thoroughly the scope of the research project. The application is evaluated by CYSTAT's Confidentiality Committee and if the application is approved, a charge may be applied according to the volume and time consumed for preparation of the data.
Microdata may then be released after an anonymisation process which ensures no direct identification of the statistical units but, at the same time, ensures usability of the data. The results of the scientific project should not disclose specific statistical units and should not be used for commercial purposes.

4.4. Confidentiality

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

CYSTAT safeguards the protection of statistical data, the privacy of data providers (survey respondents, administrative offices) and the use of statistical data solely for statistical purposes.
Statistical authority staff sign legal confidentiality commitments on appointment and penalties are prescribed for any willful breaches of statistical confidentiality as described in Statistics Law 2000.

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

Aggregation of data is mostly used to suppress sensitive data, where required.

Describe how confidential data are handled.

Confidential data are published in such a manner as to render impossible the direct or indirect disclosure of the identity of those who provided the data.

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

5. Quality

5.1. Relevance

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

The statistics produced are highly relevant and serve the needs of their users to a very large degree.

5.2. Accuracy

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

Due to the fact that the number of respondents is small and a 100% response rate is achieved, the data computed reflect the reality.

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.

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.

Non-response is negligible.

Sampling errors

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

Full coverage is envisaged.

Other sources of error

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

Stocks and sales of petroleum products and data on electricity production are collected around the 23rd day of the month following the reference month. Data are processed and published on the internet around the 27th day following the reference month. Apart from the data of the previous month, cumulative data for the period up to the month being reported are also disseminated. Imports data obtained from custom declarations are collected approximately 70 days following the reference month and although they are not published online, they are available to interested users.
Data is also transmitted to Eurostat, in line with the deadlines set out in Regulation No. 1099/2008.

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.

No major discrepancies have been observed in 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)?

An advance release calendar is published on CYSTAT's website and also sent to the subscribers to the alert function of the website on the Friday prior to the week of publication, specifying the exact release date. On publication day, an email is again sent to the subscribers informing them of the day's releases and it is also published on the Home Page of CYSTAT. Access to the data as well as to metadata is easy as there is a clickable link (both in the email and on the home page) which directs the reader to the exact webpage where the new data are published.

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.

No major breaks have been observed 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.

CYSTAT follows the methodology formulated by Eurostat which renders statistics produced by EU member states comparable.

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.

5.6. Coherence and consistency

Discuss the coherence/consistency between preliminary and final figures.

No preliminary and final figures are produced.

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?

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

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.?

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

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.