

COUNTRY PRACTICE IN ENERGY STATISTICS

**Topic/Statistics: Current Survey of
Energy Consumption in the Selected
Industries**

Institution/Organization: Ministry of Economy, Trade and Industry

Country: Japan

Date: April 12. 2012

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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 | |
|--|--|
| Name of the statistics | Current Survey of Energy Consumption in the Selected Industries |
| Background and purpose of the statistics | <p>Reflecting the major transformation of Japanese energy-related policies triggered by the two oil crises, fundamental data capable of serving as the basis for devising and implementing energy conservation/ alternative energy-related policies was urgently needed. Accordingly, the monthly current survey was launched in 1981.</p> <p>The mission of this survey is to obtain fundamental information for use in determining policies relating to the consumption of petroleum and other resources by clarifying the trend of consumption of petroleum and other resources among the domestic industries in Japan.</p> |
| Population, sample and data sources | All/part establishments of these selected industries in Japan, pulp/paper industry, chemical industry, chemical fiber industry, petroleum products industry, ceramic, clay and stone industry, glass products industry, iron/steel industry, non-ferrous metals industry, machinery industry. . |
| Main users | |
| Important contribution or issue addressed | <p>Example of utilization in national administrative organization or local government</p> <ul style="list-style-type: none"> • Basic data for compiling the Comprehensive Energy Statistics. • Basic data concerning evaluation and revision etc. of the Outline for Promotion Efforts to Prevent Global Warming. • Basic data for a petroleum supply plan or estimate for demand of petroleum-products. • Basic data of the policy measures for energy conservation etc. |

| | |
|----------------------|---|
| | Example of utilization in private sector. <ul style="list-style-type: none">• Basic data about the energy conservation measures in each industry.• Basic data for the estimated amount of the greenhouse gas emission by industry. |
| 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.

Current Survey of Energy Consumption in the Selected Industries

1.2. History and purpose

State when the statistics were first published.

1981

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

The mission of this survey is to obtain fundamental information for use in determining policies relating to the consumption of petroleum and other resources by clarifying the trend of consumption of petroleum and other resources among the domestic industries in Japan.

1.3. Reference period

State the time period the data are collected for.

As of the last day of every month

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.

Every month

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.

Printed publications and website
<http://www.meti.go.jp/statistics/tyo/sekisyo/result-2.html>

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.

Japan only

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.

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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).

Office of Current Survey for Mining and Manufacturing, Minister's Secretariat Research and Statistics Department, Ministry of Economy, Trade and Industry (METI)

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).

Article 13, the Statistics Act
<http://www.stat.go.jp/english/index/seido/pdf/stlaw.pdf>

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).

1.9. 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

Government Expenditure (Special Accounting)

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).

4 METI staffs mainly engage in the conducting of the survey. Others help them with reception of the questionnaires, publication of the survey results, data-processing, planning and scheduling of the survey operation etc.

1.10. 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.).

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).

Scopes of Current Survey of Energy Consumption in the Selected Industries are; Pulp/paper industry (Pulp - all manufactures, paper and paper board – over 50 employees)
Chemical industry (all manufactures)
Chemical fibre industry (over 50 employees)
Petroleum products industry (all manufactures)
Ceramic, clay and stone industry (Cement – all manufactures, sheet glass – all manufactures, Lime - over 30 employees)
Glass products industry (excluding Sheet glass industry) - over 100 employees
Iron/steel industry – all manufactures
Non-ferrous metals industry (Copper, lead, zinc, aluminium - all manufactures, secondary bullion aluminium - over 30 employees)
Machinery industry – over 500 employees and specified by METI

2.2. Definitions of main concepts and variables

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

Territory (in Japan), Manufactures are scopes of Current Survey of Production.

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?).

General survey items concerning oil fuels and non-oil based fuels;

(Oil fuels are crude oil, gasoline, naphtha, kerosene, gas oil, fuel oil, LPG, petroleum coke, asphalt, reproduction oil (Oil origin), etc.)

(Non-oil based fuels are coal, coal coke, tar, coke oven gas, blast furnace gas, converter furnace gas, electric furnace gas, natural gas, LNG, town gas, black liquor, waste material, used tires, waste plastic, refuse paper & plastic fuel, etc.)

1. Receipts
2. Generation, recovery and/or production
3. Consumption
 - for boilers
 - for co-generation
 - for purposes other than boilers and co-generation (as materials, for direct heating, for others)
4. Shipment
5. Inventory

Concerning Electricity (Purchase and Generation by own power station) ;

1. Purchase

2. Generation by own power station
 - by thermal
 - by co-generation
 - by hydraulic
 - by others
3. Consumption
4. Shipment

Concerning steam (Receive and Product);

1. Receipts
2. Generation
 - Primary steam
 - Others than Primary steam (Co-generation, Others)
3. Consumption
 - for production
 - for private power generation
 - for others
4. Shipment

Consumption quantity of fuel and energy for below sectors/products;

1. Pulp/paper industry (Pulp, paper, paper board, others)
2. Chemical industry (Petrochemical products (as materials, for driving power fuels), ammonia and ammonia-derived products (as materials, for driving power fuels), soda products, others)
3. Chemical fiber industry (Chemical fibres, other textiles, others)
4. Petroleum products industry (Petroleum, others)
5. Ceramic, clay and stone industry (Cement (for sintering, for others), sheet glass (for dissolving furnaces, for others), lime)
6. Glass products industry (excluding sheet glass industry)
7. Iron/steel industry (Iron and steel products (for sintering, for pelletizing, for pig Iron, for ferro-alloys, for steel forgings, for steel castings, rolling (including cold) and pipes, power generation boiler co-generation, others, for steel-making (LD converters, electric furnaces)), coke)
8. Non-ferrous metals industry (Copper (Fusing and mixing process, electrolytic process), lead (Fusing and mixing process, electrolytic process), Zinc (Electrolytic zinc, distilled zinc), aluminium, secondary aluminium ingots, other non-ferrous metals)
9. Machinery industry (Civil engineering machinery, metal working machinery and metal processing machinery, parts for electronic equipment, electron tubes semiconductors integrated circuits, computers and related equipment associated electronic equipment, automobiles (including motorcycles) and parts)

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.

Litter (Oil based fuels, crude petroleum equivalent, etc.),
Ton (Coal, LPG, LNG, waste material, steam, etc.),

m3 (Hydrocarbon gas, coke oven gas, etc.),
Kwh (Electricity)

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).

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.

2.6. Population

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

Refer to “2.1 Scope”

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: establishment
Observational unit: establishment
Analytical unit: establishment

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).

Paper and internet-based questionnaires

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.

95%

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).

If the respondent replies by Internet-based questionnaire, the received data are electronically transferred to the production database. In case of replying by paper questionnaire operators manually input the data into 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

Running examination program, notice error point;
Comparing current data to past data, if it is excessively increased/decreased than past, assuming error.
Inputting negative number on questionnaire. etc.

After detecting errors by computers, office workers judge error or not, and correct.
If an unclear point remains, in order to confirm, make a telephone call or e-mail to the respondent.

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*

The data for the previous month are used as estimated data for the current month for establishments whose data have not been submitted.

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.

No seasonal or temperature adjustment.

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.

Printed publications and website (file type: Microsoft Excel and PDF)
<http://www.meti.go.jp/statistics/tyo/sekisyo/result-2.html>

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

No

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

No charge to access website.

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.)?

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.

For several years, microdata are saved in a statistics database.

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

. Microdata are available under following conditions; - To produce statistics by an administrative organ, a local public entity, an incorporated administrative agency, an incorporated national administrative agency or inter-university research institute, in Japan. - To produce statistics etc., that are recognized as serving the public interest, by university researchers in Japan

4.4. Confidentiality

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

The Statistics Act (Article 3, 39, 40, 41 and 43) protects the confidentiality of any information supplied by individuals, judicial persons or other organizations, and ensures that the information is used for statistical purposes only. The Act also stipulates the penalty for offenders (Article 57, 58, 59, 60, 61, and 62)

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

Suppression is a method of disclosure avoidance used to protect companies' confidentiality by not showing (suppressing) the cell values in tables of aggregate data for cases where one or two establishment(s) are represented or dominate the cell value.
To make sure the primary suppressions cannot be closely estimated by subtracting the other cells in the table from the marginal totals, additional cells are also suppressed.

Describe how confidential data are handled.

Confidential data are represented as X.

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.

5.2. Accuracy

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

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.

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

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).

Report is published about 45 days after the end of the reference period.
Advanced release calendar for the next year is published at the publication date of monthly report in December.

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 discrepancies between the planned publication date and the actual publication date.

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)?

Advanced release calendar and metadata are released on the website.

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.

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.

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.

Only final figures (monthly and annual report).

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.?

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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.