COUNTRY PRACTICE
IN ENERGY STATISTICS

Topic/Statistics: Energy statistics

Institution/Organization: State Statistical Committee

Country: Azerbaijan Republic

Date: 2012.01.04

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.

The Republic of Azerbaijan is rich in energy resources and its economy heavily relies on them: the energy sector contributes about 50% to the Gross Domestic Product (GDP) of the country; in 2010 Azerbaijan exported 44.5 million tons of crude oil and 6.2 billion cubic-meter of natural gas. The importance of energy in the country has also been underlined by important milestones such as the creation in 2009 of the State Agency on Alternative and Renewable Energy of Ministry of Industry and Energy as regulatory institution for alternative and renewable energy and the development of a national energy strategy as a framework for a comprehensive and dynamic development of the energy sector.

This has posed enormous demand for comprehensive, reliable and timely official statistics for energy. In addition because of the globalization of the energy market, it was considered fundamental to develop energy statistics based in international statistical standards.

The political will was essential for the development of energy statistics

The improvement of energy statistics is considered in Azerbaijan as a priority of state: the "State Program on Improvement of the Official Statistics of the Republic of Azerbaijan during 2008-2012", confirmed by Decree of the President of the Republic of Azerbaijan, considered energy statistics as one of the priority areas. Six of the 52 planned activities identified under the section on the 'Improvement of the statistical observations, statistical indicators and their methodology in the field of real statistics' are directly related to energy statistics. This provides a strong foundation for the development and strengthening of energy statistics in the country.

In addition, the State Statistical Committee (SSC) of the Republic of Azerbaijan is the institution in charge of the management of implementation and coordination of the activities and it reports to the President and to the Cabinet of Ministers of the country about the course of the implementation of the State Program once in a year. The State Program also makes explicit provision so that the necessary financial resources from the state budget funds are allocated to the implementation of the actions identified in the State Program.

There is a strong legal basis in Azerbaijan for the collection and compilation of energy statistics defined by the Law on Official Statistics of the Republic of Azerbaijan. A Global Assessment of the National Statistical System of the Republic of Azerbaijan which was carried out by Eurostat, EFTA and UNECE in 2010, noted as part of its main conclusions, that: the professional independence of national statistical system, the principles of objectivity and fairness are reflected in the Law on Official Statistics; the SSC has a clear mandate to collect data, including data from individuals and administrative sources; and the SSC plays a central role as a producer of official statistics and is the coordinator of the national statistical system, producing (in cooperation with regional bodies), about 80% of official statistics.

Initiatives, practices' study, discussions and decisions of statistical office

Given the strong interest on the development of energy statistics is the country, the SSC always encouraged and promoted the active participation of its staff in international activities in energy

statistics, such as for example, meetings of the Oslo Group on Energy Statistics, events and seminars by the United Nations and the International Energy Agency; conferences and training related to the Joint Organizations Data Initiative (JODI) as well as study visits to EU Member States in order to learn from other countries' practices.

In September 2011, Azerbaijan hosted the International Workshop on Energy Statistics which was organized by the United Nations Statistics Division for the CIS countries. This was the first international workshop since the adoption of IRES by the UN Statistical Commission.

Between 2007 and 2011, more than 30 decrees were signed by the Chairman of the State Statistical Committee on energy statistics as well as on energy balance. Working groups were created among different institutions and within experts of related areas within SSC to discuss the structure of the energy balances, identify and resolve issues.

Development of energy statistics

The SSC actively participated in the preparation of IRES and, at the same time, worked on its implementation in the country by identifying a roadmap for its implementation which included the preparation of a national system of indicators; the improvement of the questionnaires to be used for data collection; and new round of data collections.

The main purpose for preparing a national system of indicators was to determine the frame for energy statistics, clearly specify the definitions (according to relevant UN statistical standards), and to make information available in state language for the compilation of national energy balance. The national system of indicators consists of two parts: the list of main indicators on energy statistics and the methodological explanation of the main energy indicators. The first part identifies for each indicator the measurement units and the periodicity for data compilation as well as a reference to other relevant indicators. The second part includes, for each indicator, the definition, the name of the official statistical questionnairereports, the calculation methodology and the coverage of the statistics (e.g. the sample method; the coverage of the respondents in terms of enterprises, households and etc.). The system of indicators consists of nearly 250 indicators organized under 20 sections. This system provides the basis for the preparation of the questionnaire forms as well as for the creation of metadata. The structure of questionnaire forms follows the structure of energy balance. In designing the data collection in the country, attention is always given to reduce the response burden.

The national classification of energy products was developed on the basis of the Standard International Energy Product Classification (SIEC) contained in IRES. The national version of the energy product classification was prepared by the SSC and approved by the decree of the SSC Board dated 25 May 2011 and by the decree of the State Committee on Standardization, Metrology and Patent of the Republic of Azerbaijan dated 20 June 2011, № 095 after endorsing by national agencies in charge of energy policy in the country. Following this formal adoption, the implementation of the classification started in July 2011.

The classification for energy products fosters the comparability of data at international level as well as facilitates the correspondence with the different classifications used at the national level. An essential element is the correspondence with the national versions of CPA, PRODCOM, the Central Product Classification (CPC) and the Harmonised System (HS). Particularly important for Azerbaijan is the correspondence with CPA and PRODCOM since they are used for the collection and compilation of production and consumption statistics.

SIEC and its national adaptation provide the basis for integration of energy statistics with economic statistics: the main elements that have fostered this integration are a complete list of energy products; a clear structure of the classification; a detailed description of the categories (including the identification of exceptions); and a correspondence with other classifications.

In Azerbaijan there was a strong need to improve the structure of the energy balances. The format previously used – a heritage of the former USSR – did not reflect the recent developments in energy statistics and presented a number of shortcomings: such as the lack of detailed information on the transformation and consumption, different measurement units (e.g. conditional fuel), etc.

The SSC has adopted the format of the energy balances contained in IRES for the national energy balances and presents information on 23 types of products and 5 product groups. The availability of detailed energy balances has fostered transparency; it has allowed for the assessment and monitoring

of the energy sector and it has provided information on the structure of the consumption of energy products. It has overall provided policy makers with necessary statistical information for decisions making and policy planning.

SSC compiles energy balances annually and publishes them in the annual publication "Energy balance of Azerbaijan" available online at www.azstat.org.

Key elements	
Name of the statistics	Energy balance
Background and purpose of the statistics	Department of Industry and Construction Statistics is responsible for energy statistics of which compilation of energy balances. Main purposes on working out of energy balance: To achieve more transparency and effectiveness of energy sector applying international statistics standards in the country; To determine the development trends of energy sector to make statistical application and analysis of changes and inclinations taken place in production and consumption structure of energy products; To provide the country government with essential statistical information on compilation of national Energy balance, making decisions on energy fields for the next years.
Population, sample and data sources	Data on energy export and import are collected on the basis of administrative sources, data on natural entitites - on the basis of census and data on producing sector - on the basis of sample survey.
Main users	The main users of balance data is local institutions and international organizations, also legal and natural entities, scientific units and etc.
Important contribution or issue addressed	
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.

Compilation of the energy balance

1.2. History and purpose

State when the statistics were first published.

As in other countries of the former Soviet Union and in Azerbaijan fuel energy balance has been compiled once in every 5 years. Since 1930, commodity balances of main energy products (oil, gas, electricity) and once in every 5 years from 1950 to 1990 fuel-energy balance were published. After gaining of the independence by the Republic of Azerbaijan there was published fuel-energy balance based on old structure from 1991 to 2007, but since 2008 - the energy balance based on international standards (within the framework of recommendations of IEA and Eurostat). The energy balance published in 2011 was compiled on the basis of IRES requirements prepared by Oslo Group and adopted in 42nd session of the UN Statistical Commission.

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

There was a strong need to improve the structure of the energy balances in Azerbaijan. The format previously used – a heritage of the former USSR – did not reflect the recent developments in energy statistics and presented a number of shortcomings: such as the lack of detailed information on the transformation and consumption, different measurement units (e.g. conditional fuel), etc. The SSC has adopted the format of the energy balances contained in IRES for the national energy balances and presents information on 23 types of products and 5 product groups. The availability of detailed energy balances has fostered transparency; it has allowed for the assessment and monitoring of the energy sector and it has provided information on the structure of the consumption of energy products. It has overall provided policy makers with necessary statistical information for decisions making and policy planning.

1.3. Reference period

State the time period the data are collected for.

Data on production of energy products:
- with monthly periodicity from large enterprises;
- quarterly from small enterprises;
- and annually from natural entities.
Data on consumption of energy products:
- monthly from large enterprises
- collected annually from small enterprises.
- collected with monthly periodicity from households (sample survey) (The households' sample survey relating to energy consumption has been organized by the State Statistical Committee). Results of survey on consumption of fuel and energy in the households:
http://www.azstat.org/statinfo/balance_fuel/en/index.shtml)
Data on the sale of fuel are collected from legal and natural entities with monthly periodicity. Data on import-export are obtained from the State Customs Committee with monthly periodicity.

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, quarterly, 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.

The statistical yearbook "Energy balance of Azerbaijan" which includes indicators on energy sector, as well as energy and commodity balances, energy efficiency indicators, is published annually and distributed free of charge to users. As well as, the yearbook is fully posted on the website of the State Statistical Committee and is accessible to all users.
Statistical yearbooks (http://www.azstat.org/statinfo/balance_fuel/en/index.shtml);
Since 1990, data on production and consumption of energy products, and stock changes are accessible to all users on the website of the State Statistical Committee.
Online base data (http://www.azstat.org/MESearch/search)

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.

compiled by country, alongside with that, separate parts of the balance, as well as commodity balances, data on the structure of production and consumption are published 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.

Cabinet of Ministers; Ministry of Industry and Energy; Ministry of Economic Development; Ministry of Ecology and Natural Resources, The State Oil Company, Scientific Institutions and students, etc.
UN, Evrostat; IEA; BP; World Bank; JODI

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 State Statistical Committee of the Republic of Azerbaijan

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).

There are enough strong legal bases for carrying out Energy Statistics in Azerbaijan and mainly defines by the "Law on Official Statistics" of the Republic of Azerbaijan. Professional independence, principles of objectivity and justice of National Statistical System was affirmed in the Law. A Global Assessment of the National Statistical System of the Republic of Azerbaijan which was carried out by

Eurostat, EFTA and UNECE in 2010, noted as part of its main conclusions, that: the professional independence of national statistical system, the principles of objectivity and fairness are reflected in the Law on Official Statistics; the SSC has a clear mandate to collect data, including data from individuals and administrative sources; and the SSC plays a central role as a producer of official statistics and is the coordinator of the national statistical system, producing (in cooperation with regional bodies), about 80% of official statistics.
http://www.azstat.org/laws/law_en.pdf

All legal entities (their representative and branch offices) located in the territory of the Republic of Azerbaijan are obliged to provide obtaining of necessary statistical information on the base of official statistical reports, to organize present necessary data to the state statistical bodies in the e-document format for conducting of the state (regional) observations, to carry out sample observations besides general statistical observations (http://www.azstat.org/laws/law_en.pdf). So, legislation gives opportunity to formation of policy in the area of Energy Statistics, organization of observations, all authorities in the field of getting data and dissemination including administrative sanctions applied to units that do not provide data.

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).

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

Surveys conducted in all directions by the State Statistical Committee, are realized on the basis of State Budget. Major part of issues on energy statistics is envisaged in the "State Program on Improvement of the Official Statistics of the Republic of Azerbaijan during 2008-2012", confirmed by Decree of the President of the Republic of Azerbaijan and the State Program also makes explicit provision so that the necessary financial resources from the state budget funds are allocated to the implementation of the actions identified in the State Program. Maintenance costs and activities of the State Statistical Committee are financed at the expense of state budget of the Republic of Azerbaijan and other sources stipulated by legislation.

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).

10 persons

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.).

UNSD, Avrostat, OECD, IEA, JODI, World Oil, 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).

The new national recommendations were developed based on International Recommendations on Energy Statistics. The national version of the recommendations has been prepared by the State Statistical Committee of the Republic of Azerbaijan and approved by the decree of the SSC Board dated 25 May 2011 and by the decree of the State Committee on Standardization, Metrology and Patent of the Republic of Azerbaijan dated 20 June 2011, № 095 after endorsing by national agencies that realize energy policy of the country. Application of the classification has been started in July 2011 and this classification has been used in preparation of national energy balance of the country based on results of 2011.

The classification characterizes comparability of data at international level as well as relations between different classifications applied at the national level. For example, indicating of the correspondence code of CPA and PRODCOM along with CPC and HS in the national version of the energy products' classification creates good chances. Provision with correspondence code of CPA and PRODCOM is not casual. The coordination of this classification with CPA and PRODCOM is important as far as both of them are used in Azerbaijan for carrying out of the statistics on production and consumption of products and they are useful for users.

Combination of products used for generation of energy together with energy products at the same classification, division of fuel by origin and properties, as well as classification of products based on common balance structure is practical for specialists on compilation of balance of goods and energy. At the same time, the list of energy products, structure, explanations as well as main peculiarities for separation of the same products from one another are indicated in this classification. This factor provides coordination of energy statistics with different branches of economic statistics.

2.2. Definitions of main concepts and variables

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

Indicators system on Energy Statistics. Indicators system on Energy Statistics is prepared by the National Statistical Office. The main purpose of preparing of indicators system was determination of the frame of energy statistics, their definition according to the standards of IEA, UN, EU, also preparation some necessary information in state language for the compilation of national energy balance. The indicators system consists of two parts "The list of main indicators on Energy Statistics" and "Explanation of main indicators on energy". In the first part shown full name of indicator, unit of measurement, periodicity and list of included indicators, but in the second part- short definition of indicator, its counting methodology and included level by official statistics (in the formation of indicator uses sample surveys or censuses method, also considered all sides of energy market, such as small entrepreneurships, households and etc.). Indicator system covers nearly 250 indicators from 20 parts. It is covered with the main energy products, including crude oil, natural gas, natural bitumen and natural asphalt, gasoline, oil and white, diesel and other petroleum products, etc. production, and the flow of resources, their export and import, etc. Preparation of indicators system is a good base for the preparation of corresponding questionnaire, creation of metadata system, and explaining definitions and conceptions to respondents and it services for the increasing of data quality. The structure of report forms is coordinated to the structure of energy balance and achieved to the reduction of burden.

The practice of Azerbaijan in the field of determination on contingent conversion factor of energy products. The main indicator on characterizing quality of energy resources is its calorific values. Countries can define contingent conversion factor for carrying out assessment, comparison and analysis of energy resources. By this purpose, the State Statistical Committee used the services of scientific institutions in the field of chemistry. Necessary laboratory works have been carried out by the National Science Academy of Azerbaijan by the order of State Statistical Committee. There were determined calorific values on 23 energy products. These coefficients are used at the moment.

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?).

According to IRES

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.

Main important work that has been carried out in Azerbaijan was the identification of the country specific calorific values for the energy products. This was considered particularly important in order to reflect in the energy balances the higher calorific values of the energy products in the country. The SSC commissioned experts from the scientific institutions to identify the country specific calorific values. In particular, the Institute of Petrochemical Processes of the Academy of National Sciences of Azerbaijan carried out laboratory works and determined the calorific values of 23 energy products which are now used for the compilation of energy statistics and balances. An example of the net calorific values is provided below:

Net Calorific Values for some energy products

№	Kind of energy products	By Azerbaijan		By world	
		Lower	Upper	Lower	Upper
1.	Crude oil	43,1	45,3	40,1	44,8
2.	Gasoline	43,2	46,3	42,5	44,8
3.	Aviation gasoline	43,4	46,5	42,5	44,8
4.	Jet fuel	43,2	46,2	42,0	44,8
5.	Diesel oil	42,7	45,5	41,4	43,3
6.	Kerosene	43,1	46,1	42,4	45,0
7.	Fuel oil (low-sulphur)	42,5	45,4	39,8	41,7
8.	Fuel oil (high-sulphur)	41,2	43,8	39,8	41,7
9.	Natural gas (cubic meter)	35,9	38,9	36,0	39,02
10.	LPG	47,4	52,4	44,8	52,2

Net Calorific Values (Gj/metric tons)

These coefficients are used at the moment.
http://www.azstat.org/statinfo/balance_fuel/en/01_en.shtml

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).

http://www.azstat.org/tesn3/

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.

Business register, household survey, enterprise survey and administrative data

2.6. Population

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

Mainly used reporting unit, also used observational unit for consumption sector of balance.

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.

Enterprise, enterprise group, kind-of-activity unit, local unit, establishments; households

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.

Sampling unit for the survey of economic activity of population of republic are households and the probability sample units for each household is equal.
All administrative territorial unit of republic are divided in two group: urban and rural areas. Scheme for creation sample network on the urban and rural areas is specified below.
Stages for formation sample network following:
- design a sampling plan for urban and rural areas,
-       preparing a database of household for urban and rural areas with using population census information.,

- clustering of enumeration unit in urban areas,
- clustering of rural areas on the distance from the regional centre,
- households select.

Design a sample plan in urban and rural areas,
The sample survey of households are carry out in urban and rural
areas of republic. Refugees were also investigation on the dislocation place. For this is form separate sample plan. The design sample plan were used a information of the population census, conducted in 1999. It was determined a selective number of housholds for each urban areas. For determination of number of household is realized on the equal probablity principle. Sample plan of households was prepared by demography and social statistics department on the population census information. In the sample plan was indicated number of households in urban and rural areas. Making a sample plan on district (regional) level has ensure a creation to selective network on city, town and rural levels.
Creation a database of household in urban and
rural areas with using the information of the population census.

Administrative territorial units are divided in urban and rural areas. For the create a sampling network in urban areas are used population census data. Follows to note that sampling unit is households, and therefore population census data necessary was aggregated at a rate of the households. Database of population census is prepared with use Foxpro program development. With using Microsoft Office were remake database for further processing in SPSS system and ACCESS. The database on administrative – territorial doing are transform SPSS for cluster analysis. The transform of data depends on software programs developments and problems. For the realization of sampling units was conduct statistical analysis of data. Without SPSS was impossible realize this problem.
Cluster analysis the enumeration unit in urban areas.

The first was defined number of households on enumeration unit in urban areas. Whereupon, depending on number of population was defined number of clusters. All urban areas of republic were clustered by means of SPSS. Number of households is determined in each cluster. Then was determined volume of sampling units in each clusters. Volume of sampling units on clusters was defined by doing number of households on clusters on number of households of city and was multiplied the sampling plan of corresponding city. Representative enumeration unit on cluster was defined according to median value of number of household in clusters. Calculations on the determination of sampling plan and the median value were conduct by means of EXCEL.

Cluster analysis of rural areas on the distance from the regional centre,
For ensuring representative rural areas of the district was conducted their cluster analysis on the distance from the regional centre. These data are present by local statistical organs. As is well known, economic development rural areas depends on distance from the market, from the transport expenses and others expenses. Goods remote rural areas are noncompetitive with goods close rural areas. So criterion for cluster analysis was a distance from the regional centre. It was created database on the distance from the regional centre on each rural areas of each region are divided into 5 clusters. Cluster analysis was conducted by SPSS, then from each cluster according to median value of number household is defined reperesentative rural areas. Main purpose was reduction sampling error for normalization of groups on numbers of households in each clusters.
Households selection.
After the determination of representative urban and rural areas was conduct household selection. Process of selection was realized by means of SPSS method of random sample. The select households list were sent to local statistical organ for actualizations. After actualizations were elaborate sampling networks of households on urban areas.
Information base for the determination the selective network on rural areas were a data, this data was presented by local statistical organs on representative rural areas. These data are form in the select of households and are used for prepare sampling network on rural areas. For the determination of sampling plan was conducted a calculation. General principles of the calculation on urban and rural

areas is same. After prepare the sampling network in representative urban and rural areas a households list was sent to local statistical organ for conduct a survey.

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, administrative data

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.

Juridical persons - 95-100 %
Physical persons - 80-90%
Households - 70-80%

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).

Collection of data on legal entities is carried out online. For this purpose, the unit for electronic submission of reports was established in the State Statistical Committee and reports are accepted electronically. Currently about 30 percent of statistical units involved in report on energy sector submit reports electronically, and the rest - in hard copy.
There is the agreement with the State Customs Committee on electronic data exchange in order to collect data on import-export and every month these data are entered to the database.
Data on inquiries, as well as on households are conducted using face-to-face method with interviewers.

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

There are software for detecting errors in reported data.

Manual routines and automotic error-direction (and correction)

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 a need for recovery of statistical units and spesific indicators in statistical surveys. Different methods are used for data recovery (average value, median value, econometric model and etc.). For application of these methods, survey data are analyzed using spesific program package (SPSS, SAS and etc.). Mainly following methods are used for imputation (recovery) of data:
-        Subjective method;
-        Imputation of average value and mode;
-        Poststratification. Sample data are divided into strata (tiers) and average value, mode and median value are calculated for every strata;
-        Imputation of missing data using other sources (previous survey data);
-        Imputation based on the information obtained from homogeneous groups in a random way (donor);
-        Nearest neighbour imputation;
-        Regression imputation model;
-        Imputation on the basis of forecast's average value;
-        Multiple calculation of conventional value;
-        Single imputation;
There is a "Scientific-methodological conception for completing of respondents' incomplete provisional data on the basis of imputation (recovery) methods" approved by the Decree number 62/14 dated 27 October 2010 of the State Statistical Committee regarding imputation.

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.

Collection of data on legal entities is carried out online. For this purpose, the unit for electronic submission of reports was established in the State Statistical Committee and reports are accepted electronically. Currently about 30 percent of statistical units involved in report on energy sector submit reports electronically, and the rest - in hard copy.
There is the agreement with the State Customs Committee on electronic data exchange in order to collect data on import-export and every month these data are entered to the database.
Data on inquiries, as well as on households are conducted using face-to-face method with interviewers.

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.

Seasonal adjustments are not performed for energy statistics.

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.

"Energy balance of Azerbaijan", statistical yearbook
(http://www.azstat.org/statinfo/balance_fuel/en/index.shtml);

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

Online base data (http://www.azstat.org/MESearch/search)

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.)?

Annually

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.

Protection of microdata in the State Statistical Committee is regulated by the Law of the Republic of Azerbaijan "On official statistics" and Rules on "Creation of electronic archive of statistical reports' databases" signed by the Chairman of the State Statistical Committee on 24 February 2010. Data in both hardcopy and electronic (reports) formats presented by statistical units are strictly protected. Hardcopy data is protected in the archives of the Committee's local bodies, and electronic reports - by special cipher codes.

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

Use of microdata is possible within the framework of the requirements of the Law "On official statistics" of the Republic of Azerbaijan and "Rules for presentation of microdata to users for research purpose" signed by the Chairman of the State Statistical Committee on June 13, 2011.
Access to confidential data that do not allow direct identification may be granted by the SSC of Azerbaijan for specific scientific research projects the envisaged results of which do not refer to identifiable individual units.
Access only granted if the standard of protection of the confidential data within the research project is ensured.

4.4. Confidentiality

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

The State Statistical Committee possesses an enormous amount of information characterizing development of almost all spheres of country's activity. All information sent to the adress of state statistics bodies by respondents is confidential and free access to this information is unavailable. Every respondent in the Republic of Azerbaijan legislatively has the right to protect state, commercial, professional and finally private secrecy. For this purpose, the special article is provided for by the adopted law of the Republic of Azerbaijan "On official statistics", and according to this article, provisional statistics (private data) of legal and natural entities are confidential and represent statistical secrecy. For quality assurance and gaining public confidence, principles of reliability, objectivity, correspondence, as well as statistical confidentiality and transparency were especially mentioned in the article 9 of the Law "On official statistics". According to the Code of the Republic of Azerbaijan "On administrative offences", natural entities and authorities incur penalties for disclosure of statistical secrecy by presenting information about legal and natural entities without their consent. The Statistical Committee possesses documentary and procedural rules on maintenance and archiving of primary data.

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

Describe how confidential data are handled.
All measures of administrative, technical and organizational nature
necessary to protect confidential statistical data against unlawful access, disclosure
or use are taken by the state statistical bodies. (From THE LAW ON OFFICIAL STATISTICS OF THE REPUBLIC OF AZERBAIJAN Article 20. Protection measures)
http://www.azstat.org/laws/law_en.pdf

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.

Workshops dedicated to organization of energy statistics are arranged every year in the State Statistical Committee. Opinions of users on data quality and for which data the statistics should be conducted are learned in workshops and their suggestions are taken into account in practical work. Monitoring is conducted continuously on the website of the State Statistical Committee in order to learn users' opinion.
(http://www.azstat.org/indexen.php).

5.2. Accuracy

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

Design effect indicator on households is calculated for accuracy determination, and accuracy of data and sample is determined on the basis of this indicator.

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.

Not calculated.

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

Sampling error is calculated.

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).

Planning and conduct of statistical surveys are carried out according to previously declared Program of Statistical Activities. Statistic Release Calendar of Statistical Data
(http://www.azstat.org/publications/C_R.shtml)

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.

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)?

Official data addressed to public authorities are automatically posted on the Committee's website and thus, principle of equal access for all categories of users is ensured during data dissemination. It also relates to metadata. There is the officially approved data dissemination policy of the Committee which describes all stages and procedures.
The portal of electronic government services which includes number of statistical services for respondents and users such as on-line presentation of reports and etc. started to function within the framework of the e-government created in Azerbaijan, and the electronic calendar of data dissemination has became the component part of this section.
(http://www.azstat.org/MM_T_en.shtml).
Statistic Release Calendar of Statistical Data (http://www.azstat.org/publications/C_R.shtml)

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.

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.

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.?

-To conduct the "sample survey on Energy consumption of natural persons (private owners)" for the purpose of indication of energy products consumed by natural persons by the sectors in final consumption sector of energy balance;
-To prepare new indicators by training of advanced experiences in energy statistics;
-To prepare the metadata system on reports applied in energy statistics;
-To continue the constant improvement of data quality;
-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.