COUNTRY PRACTICE IN ENERGY STATISTICS

Topic/Statistics: Energy Balance

Institution/Organization: Central Statistical Bureau of Latvia

Country: Latvia

Date: 05.04.2012

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.

Environmental and Energy Statistics Section of the CSB is responsible for energy statistics. Key product produced by the section is Energy Balance of Latvia.
With an aim to develop Energy Balance, 5 annual questionnaires in the field of energy statistics are prepared.
Since 1996 energy statistics data have been collected in accordance with the IEA and Eurostat methodology.
Till 2004 energy consumption data have been collected on quarterly basis. Questionnaire 1-EK "Survey on stocks, receipts and consumption of energy resources" was collected from about 10000 enterprises and organisations (with all kinds of economic activity). For this survey a separate sample is drawn. Starting from 2005 the "Survey on stocks, receipts and consumption of energy resources" was collected on semi-annual basis.
Since 2008 we have started to collect the energy consumption data annually.
Annual surveys
1-energetic "Survey on activities of public electricity producers". Enterprises dealing with electricity production, import and sales to final users as well as enterprises maintaining common electricity network are surveyed.
1-gas "Survey on use of natural gas" JSC "Latvijas gāze" engaged in import, transmission, storage and sales.
1-energy (with annex) "Survey on production of heat and electricity" (survey for 340 enterprises producing electricity and heat for sale).
CSB data collection system is based on detailed compulsory survey 2-EK serving as a basic tool for creating energy balances at country level. Statistical questionnaire 2-EK "Survey on purchase and consumption of energy resources" (annual) is a sample survey, the sample size of which comprises approximately 5500 statistical units (with all kinds of economic activities).
Data collection covers:
Industry sector (NACE Rev. 2 divisions 08-32 (excl. 08.92), 41-43);
Transformation sector (indicates volume of fuel consumed for the production of electricity and quantity of fuel consumed for the production of heat, which is sold)
Energy sector (NACE Rev. 2 divisions 08.92, 19, 35);
Transport sector (reports on all energy resources in all transport activities irrespective of the economic sector in which the activity is performed, also household consumption);
Commercial/public services (NACE Rev. 2 divisions 33, 36-39, 45-47, 52-96, and 99);
Agriculture/Forestry (NACE Rev. 2 divisions 01, 02);
Fishing (NACE Rev. 2 division 03).
Results of the annual surveys 1-energy and 1-energetic are summarised in the Electricity Balance Sheet of Latvia. Annual surveys 1-energy and 1-energetic are collected from of all private and public producers and distributors of electricity.
In annual survey 1-energetic respondents show the supply of electricity in breakdown by branches of the national economy, including industry breakdowns by branch.
1-gas (annual) is a specialised questionnaire for the gas distributor "Latvijas Gāze". Import and distribution of gas is a monopolized in Latvia; all natural gas is imported from Russia. Annual survey of "Latvijas Gāze" shows the supply of gas to all branches of the national economy.
Starting from 2003 the Central Statistical Bureau conducted survey "1-energy" on each heat plant, cogeneration plant. Only those heat plants producing heat energy for sale and all cogeneration plants were chosen. To achieve the goal we used information of the CSB Business and Organisation register, as well as licenses for electricity and heat production issued by the Public Utilities Commission.
668 heat plants and 71 CHP plants were surveyed in 2010 (approximately 340 enterprises).
The obtained information facilitates the completion of the Annual Questionnaire in compliance with the methodology developed by the International Energy Agency (IEA) and EUROSTAT by group of energy producers:

- public cogeneration plants,
- public heat plants,
- autoproducer cogeneration plants,
- autoproducer heat plants

In the survey we acquired necessary information on heat plants by their location. This will result in meeting the requirements set for information on heat energy production and utilisation in regional breakdown.

Legal background for the statistical data collection is provided by the State Statistical Information Programme:

- according to the Law on State Statistics, data should be produced each year;
- it has been approved by the Cabinet of Ministers;
- it is comprehensive document containing list of official statistics collected by the CSB and other public bodies.

The CSB has 5 data collection and processing centres, the staff of these centres is responsible for data collection.
To process the data the CSB has implemented an Integrated Statistical Data Management System (ISDMS) containing a data warehouse and statistical processing systems.
In 2008 a Document Storage System (ADS) was developed in the CSB. Starting from 2009 each year all fundamental processes performed for each statistical survey as well as for complex projects must be described in the ADS in detail. All quality indicators have to be explained. ADS provides also technical possibility to attach number of supplementary documents
.
.

Key elements	
Name of the statistics	Central Statistical Bureau of Latvia
Background and purpose of the statistics	To collect information with an aim to develop Energy Balance of Latvia, to fill in 5 Annual Questionnaires for Eurostat/IEA/UN, as well as meet local requirements in energy statistics.
Population, sample and data sources	One of the most important surveys for the Energy Balance is 2-EK "Survey on purchase and use of energy resources" (annual). Target population of this survey covers economically active statistical units (merchants and budgetary institutions as well as agricultural and fishermen farms employing 10 and more persons). It is a sample survey with the sample size of about 5500 statistical units. Surveyed respondents are: - all local government enterprises, regardless the number of employees, and other enterprises employing 80 persons and more); - enterprises and organizations employing less than 80 persons are surveyed with the simple random sampling, extrapolating the acquired results. Another data sources used to produce the Energy Balance are surveys 1-energy "Survey on production of heat and electricity" with annex (annual), 1-gas "Survey on use of natural gas" (annual), 1-energetic "Survey on activities of public electricity producers" (annual), as well as 5 monthly surveys on electricity, cogeneration stations, natural gas, oil products and solid fuels.
Main users	Main data users: European institutions: Statistical Office of the European Union (EUROSTAT). State and local government institutions in Latvia: Bank of Latvia, Ministry of Agriculture, Ministry of Economics, Ministry of Finance, Public Utilities Commission, Ministry of Environmental Protection and Regional Development, Riga City Council International institutions: United Nations Organisation, International Energy Agency. Statistical institutions of other countries: Statistics Denmark, Statistics

	Estonia, Lithuania Statistics Department. Other CSB structural units: National Accounts Section, Agricultural Statistics Section, Industrial Statistics Section. Other: television, radio, individual merchants, news agencies, scientists, foreign embassies and agencies, newspapers, research centres, students, associations.
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.

Energy Balance

1.2. History and purpose

State when the statistics were first published.

Compatible data are available since 1990.

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

The main purpose of producing the statistics is to collect information with an aim to develop Energy Balance of Latvia, to fill in 5 Annual Questionnaires for Eurostat/IEA/UN, as well as to fulfil local requirements in energy statistics.

1.3. Reference period

State the time period the data are collected for.

2010

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.

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.

Online databases, online informative leaflets, printed publications in Latvia Statistical Yearbook
http://www.csb.gov.lv

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.

Country as a whole (Nomenclature of Territorial Units for Statistics NUTS 2010 / EU-27 - NUTS level 1, 2)
Transformation sector data are available by 6 statistical regions of Latvia (NUTS level 3)

1.7. Main users

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

Main data users:

European institutions: Statistical Office of the European Union (EUROSTAT).

State and local government institutions in Latvia: Bank of Latvia, Ministry of Agriculture, Ministry of Economics,

Ministry of Finance, Public Utilities Commission, Ministry of Environmental Protection and Regional Development, Riga City Council.

International institutions: United Nations Organisation, International Energy Agency.

Statistical institutions of other countries: Statistics Denmark, Statistics Estonia, Lithuania Statistics Department.

Other CSB structural units: National Accounts Section, Agricultural Statistics Section, Industrial Statistics Section.

Other: television, radio, individual merchants, news agencies, scientists, foreign embassies and agencies, newspapers, research centres, students, associations.

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).

Central Statistical Bureau, Agricultural and Environment Statistics Department, Environment and Energy Statistics Section

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).

Law on Energetic http://www.likumi.lv/doc.php?id=49833 Law on State Statistics http://www.likumi.lv/doc.php?id=45932 Regulation of the Cabinet of Ministers No 1428 of December 15, 2009 on State Statistical Information Programme for 2010 http://www.likumi.lv/doc.php?id=202387&from=off

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).

322/97 Council Regulation (EC) No 322/97 (February 17, 1997) on Community statistics 1099/2008 European Parliament and Council Regulation (EC) (October 22, 2008) on energy statistics (Document regards EEZ)

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

State financing, for Household Survey on Energy Consumption (once per 5 years) – 50% state budget and 50% - Eurostat grant

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).

The CSB has 5 data collection and processing centres, the staff of these centres is responsible for the collection of data.
1678 man-labour days were necessary to collect the data for Energy Balance in 2010 (including Household Survey conducted once per 5 years). Number of employers involved – 171 (including 69 for Household Survey).

964 man-labour days were needed to analyse and produce the data for Energy Balance. Number of employers engaged – 7 (including mathematicians and programmer).

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.).

International Energy Agency
http://www.iea.org/index.asp
Statistical Office of the European Union (EUROSTAT)
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database
United Nations Organisation
http://unstats.un.org/unsd/environment_main.htm

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 covers production, supply and consumption of all energy products in Latvia, classified according to the Classification of Economic Activities in the European Union (NACE Rev. 2)

2.2. Definitions of main concepts and variables

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

Energy Balance data collection and production is based on the territorial principle.

Data are collected in physical units. In Energy balance data are presented at natural units, in TJ and toe.
For the local Energy Balance all fuels are calculated with NCV. As set by the methodology, in the Annual Questionnaires natural gas is calculated with GCV.

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?).

Data collection covers the following variables:

Opening stock level
Production
Purchased in Latvia
Import
Consumption total (including loses)
Consumption for electricity production and heat for sale
Consumption for lightening, heating, technological needs (without transport and losses)
Sold in Latvia
Export
Closing stock level
Used for transport

All variables are defined according to the methodology developed by the Eurostat/IEA/UN for 5 Annual Questionnaires and “Energy Statistics Manual”.

All kinds of fuel used in Latvia are covered by surveys:

Energy resources	Measure unit	Conversion factors to TJ for 2010
Heat	MWh	0.00360
Electricity	MWh	0.00360
Aviation gasoline	t	0.04397
Motor gasoline	t	0.04397
of which with octane number 92	t	0.04397
with octane number 95	t	0.04397
with octane number 98	t	0.04397
Biogasoline E85	t	0.02938
Kerosene type jet fuel	t	0.04321
Kerosene	t	0.04320
Diesel oil	t	0.04249
Biodiesel (bio from 5 till 30%)	t	0.04249
Biodiesel (bio more than 30%)	t	0.04249
Oven fuel	t	0.04249
Residual (heavy) fuel oils	t	0.04060
of which with a sulphur content lower than 1%	t	0.04060
with a sulphur content 1% and higher	t	0.04060
Marine fuel oils	t	0.04060
Natural gas	thsd m^3	0.03367
Liquefied petroleum gas	t	0.04554
of which auto gas	t	0.04554
Other oil products	t	0.04186
of which white spirit	t	0.04186
paraffin waxes	t	0.04186
petroleum coke	t	0.03298
Used oils	t	0.02923
Oil bitumen	t	0.04186
Lubricants	t	0.04186
Biodiesel (pure)	t	0.03720
Glycerin (for heating)	t	0.02900
Bioethanol	t	0.02680
Landfill gas	thsd m^3	0.01982
Sewage sludge gas	thsd m^3	0.02280
Coal	t	0.02622
of which anthracite	t	0.02910
Peat	t	0.01005
Peat briquettes	t	0.01549
Straw	t	0.01440
Shale oil	t	0.03935
Oil shale	t	0.00921
Coke oven coke	t	0.02679
Municipal waste for heating	t	0.01856
Firewood	m^3 solid	0.00670
Wood wastes	m^3 loose	0.00268
Wood chips	m^3 loose	0.00340
Wood briquettes	t	0.01700

Pelleted wood	t	0.01800
Charcoal	t	0.03000

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.

Data are collected in physical units, additionally we collect price for each fuel purchased during reference year.
In Energy Balance data are presented at natural units, in TJ and toe.
For the local Energy Balance all the fuels are calculated with NCV. For the Annual Questionnaires, according to methodology, natural gas is calculated with GCV.

The density of fuel oils used in data collection (kg per litre):
gasoline – 0.74
diesel oil – 0.84
biodiesel – 0.89
bioethanol – 0.77
kerosene – 0.81
oven fuel – 0.80
LPG - 0.53
lubricants – 0.9

Average coefficients used for recalculation for fuelwood:
1 stacked cubic meter = 0.65m^3 (solid volume)
1 m^3 = 2.5 loose m^3
1 m^3 (w=40%, where w is moisture) = 0.625-0.75 t
1 loose m^3 = 280 kg

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).

National classification:
Classification of Administrative Territories and Territorial Units (CATTU)
http://www.csb.gov.lv/en/node/29893/list
EU classifications:
Classification of Economic Activities in the European Union (NACE Rev 2)
Combined Nomenclature (CN) (each year corresponding version)
Classification of Industrial Production (PRODCOM) (each year corresponding version)

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.

Enterprise surveys
Survey on consumption of energy resources in households
Statistical Business and Organisation Register
State Revenue Service
Road Traffic Safety Department

2.6. Population

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

Statistical units (merchants and budgetary institutions) economically active in 2010 and agricultural and fishermen farms with 10 or more employees

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 units are filling in surveys "1-gas" (annual) and "1-energetic" (annual), where they report gas and electricity sold to enterprises and households. Reporting units completing the survey "1-energy" are reporting heat sold to third party (enterprises or 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 frame
Mathematical support division created the sampling frame from the Statistical Business and Organisation Register in November 2010. Sampling frame included all statistical units meeting to the target population description, except statistical units with unknown main kind of economic activity, individual merchants and public organisations.
The sampling frame consisted of 60321 statistical units.
For current reference period sampling frame was no more updated.

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.*

Sample design
The sample design is one-stage stratified simple random sample. Sample is independent of other business survey samples.
Stratification
Stratification of sampling frame was made by kind of economic activity and within it by size group of enterprise and by characteristics describing the adherence of enterprise to the economic activities, larger sampling fractions of which were required. In order to decrease number of strata, economic activities, larger sampling fractions of which were required, were merged as following:

Economic activity groups	Merged economic activity groups

01	A_1
0811, 0812, 0990	B_1
1610	16_1
2332	23_1
2573	25_1
2830, 289	28_1
2932	29_1
3020	30_1
31	31_1
3311	33_1
35 (except 3511)	D_1
37	E_1
4671, 4730	G_1
49, 50, 5224	H_1
6820, 6832	L_1
8422	O_1
8610	Q_1
9104, 9311, 9312, 9321, 9329	R_1

For stratification following economic activity groups were used:

10	19	26	33	E_1	L_1
11	20	27	33_1	F	M
12	2014	28	3511_n	G	N
13	21	28_1	3511_r	G_1	O
14	22	29	A	H	O_1
15	23	29_1	A_1	H_1	P
16	23_1	30	B	I	Q
16_1	24	30_1	B_1	J	Q_1
17	25	31_1	D_1	K	R
18	25_1	32	E	L	R_1
					S

Enterprises in each economic activity group were divided in up to 5 size groups. In all economic activity groups, except NACE section O, enterprise size group was determined by the annual turnover. In NACE section O (Public administration and defence; compulsory social security) enterprise size group was determined by the number of employees.

Sample allocation

Sample sizes in each strata were computed basing on the turnover with the help of the "optimized" Neyman optimal allocation. In NACE section O sample sizes were computed basing on the number of employees.

Following procedure describes the steps for sample size calculation, taking into account constraints on maximum coefficient of variation in domains of interest (domains of interest are NACE Rev. 2 sections and divisions of section C):

1) Set the maximum coefficient of variation for domains $CV_{\max} = 4\%$.
2) Calculate the minimum sample size in each stratum $n_h^{\min} = \min\{N_h;3\}$, where N_h is stratum population size.
3) Calculate the minimum sample size in each domain $n_d^{\min} = \sum_{h=1}^{L_d} n_h^{\min}$ as a sum of minimum sample sizes of stratas within domain, where L_d is number of stratas in domain d.
4) Calculate the stratum sample sizes in domain using Neyman optimal allocation $n_h^{Neyman} = n_d^{\min} \cdot \frac{N_h S_h}{\sum_{h=1}^{L_d} N_h S_h}$, where N_h is stratum population size, S_h is standard deviation of annual turnover of enterprises.
5) Calculate the coefficient of variation in domain CV_d.
6) If $CV_d > CV_{\max}$, then $n_d^{\min} = n_d^{\min} + 1$ and repeat steps 4 and 5 until $CV_d \le CV_{\max}$ or $n_d^{\min} = \sum_{h=1}^{L_d} N_h$.

Additional constraints on design weights were set for enterprise size groups:

Size group	Maximum design weight
1	1
2	3.5
3	9
4	24
5	37

Selection of the sample
In each economic activity group the "large" enterprises were defined:

1) enterprises with >=80 employees;
2) enterprises defined by Environmental and Energy Statistics Section of the CSB of Latvia;
3) enterprises representing the top 17% of the total turnover for each economic activity group;
4) enterprises representing the top 50% of the total turnover for economic activity groups, larger sampling fractions of which are required.

"Large" statistical units, state and municipal authorities, statistical units having NACE Rev. 2 code "2014", statistical units from the strata having less than 4 enterprises are all (100%) included in the sample (2728 statistical units).
Small statistical units are selected for the sample randomly.
The sample size comprises 5506 statistical units, i.e., 9.1% of the sampling frame.

Size group	Number of statistical units in frame	Number of statistical units in sample	Sampling fraction (%)
1	2728	2728	100.0
2	1566	531	33.9
3	3837	511	13.3
4	12652	605	4.8
5	39538	1131	2.9
total	**60321**	**5506**	**9.1**

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).

Data are collected:
- by fax, e-mail, post, e-report in electronic data collection system (introduced in the CSB in 2004)

Respondents can fill in the majority of reports in the CSB homepage and submit them in electronic form.

In the section "My reports" on the CSB homepage each respondent is able to check the list of reports, which he/she has to submit, as well as reports already submitted. This site is used both by respondents and the CSB staff at their daily work.

During the testing of the ISDMS respondent registration and response module, with an aim to remind about the reports not submitted and increase response rate, respondents received reminders in their e-mails. It reduced the volume of correspondence sent with "Latvijas pasts" and total expenditure on postal services.

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.

2-EK "Survey on the purchase and use of energy resources "
Un-weighted unit response rate was 92%.

1-energy with annex "Survey on the production of heat and electricity"
Response rate was 100 %, except cases when enterprise has stopped its activity or does not produce heat for sale.

1- energetic "Survey on activities of public electricity producers"
Response rate - 100 %.

1- gas "Survey on the use of natural gas".
Response rate 100 %.

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 are collected and entered in the CSB Integrated Statistical Data Management System (ISDMS) in the Statistical Data Collection and Processing Centres. It is a system based on metadata and standardisation of data processing, which in essence does not require individual programming.

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

Data are verified in two data processing stages: on raw data level (processing of individual information) and on aggregated data level (verifying prepared aggregates).

Data at the raw data level are verified automatically after they are entered in the CSB data processing system, and there the incorrect, potentially faulty, incomplete and missing data are defined through pre-developed and pre-verified validation algorithms.

CSB uses several methods for data verification at the raw data level:
• arithmetical coherence;
• logical coherence;
• comparison with data of previous periods;
• mutual coherence verification with other statistical questionnaires, statistical registers and administrative data.

Validation rules are developed and tested before the survey starts. The rules have been ranged according to their importance:
"1"- high importance (strong mathematical and logical rules);
"2" and "3" - lower importance rules.

Most of enterprises fill in the questionnaire electronically in the CSB homepage, using the ISDM system. High importance rules are applied also for the e-report.
The rules work automatically in the ISDM system.
A message on the screen explains where and what kind of error is detected.

The rules might be changed during the survey, if needed (e.g., due to the changes in prices for some of energy resources or appearance of new kind of energy resources in the market).
When data collection is complete, all errors have to be either corrected or confirmed.

Errors identified during verification by their importance are divided into two types:
• ones, which have to be definitely corrected;
• ones, which can be ignored as they have little impact on the quality of aggregates.
Consultations with the respective respondent are frequently carried out after the error had been identified in the raw data, and, if the error is recognized, data are corrected.

After that the general controlling in the CSB Environment and Energy Statistics Section takes place. The response rate on average is about 90%. Imputation is performed when the validation of microdata is completed.

Reasons for non-response are classified into 5 groups for the database:
mark "1" - the enterprise has stopped its activity for a short time;
mark "2" - the enterprise has stopped its activity, even if it has not been yet officially registered
mark "3" - is not possible to contact with the enterprise
mark "4" - the enterprise refuses to respond
mark "5" - the enterprise has changed its activity

Only non-respondents with marks 3 and 4 (is not possible to contact with the enterprise or enterprise refuses to respond) might be imputed.

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*

We impute:
all non-responded big enterprises, which were active during the previous period;
smaller enterprises, if there are very few respondents in the strata;
enterprises producing, importing, exporting or consuming specific energy resources, leaving significant influence on the total energy balance numbers.

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.

Stratification
Stratification was made according to 3 features:

1) Economic activity groups. Enterprises were stratified in following economic activity groups:

10	19	26	33	E_1	L_1
11	20	27	33_1	F	M
12	2014	28	3511_n	G	N
13	21	28_1	3511_r	G_1	O
14	22	29	A	H	O_1
15	23	29_1	A_1	H_1	P
16	23_1	30	B	I	Q
16_1	24	30_1	B_1	J	Q_1
17	25	31_1	D_1	K	R
18	25_1	32	E	L	R_1
					S

2) Enterprise size groups (enterprises were divided in up to 5 size groups);
3) Characteristic feature describing allocation of enterprise to economic activity group, larger sampling fractions of which were required. In order to decrease number of strata, economic activity groups, larger sampling fractions of which were required, were merged as following:

Economic activity groups	Merged economic activity groups
01	A_1
0811, 0812, 0990	B_1
1610	16_1
2332	23_1
2573	25_1
2830, 289	28_1
2932	29_1
3020	30_1
31	31_1
3311	33_1
35 (except 3511)	D_1
37	E_1
4671, 4730	G_1
49, 50, 5224	H_1
6820, 6832	L_1
8422	O_1
8610	Q_1
9104, 9311, 9312, 9321, 9329	R_1

Weighting

In each economic activity group outlying values were detected for several target variables and the enterprises considered as "large units" ('lu'). The weights for these units were set =1.

Weights of responded units that are all included in the sample remain =1.

Weights of other responded units were calculated using formula: $w_{hi} = \frac{N_h - n_h^{lu}}{n_h^{resp} - n_h^{lu}}$, where N_h is stratum population size, n_h is stratum sample size, n_h^{resp} is number of responded units in stratum, n_h^{lu} is number of 'large' units in stratum.

The weights set for the non-responded units were =0.

Separate weights were calculated for the following variables:

1) consumption of natural gas;
2) received (incoming) heat;
3) consumption of electricity;
4) consumption of petrol and diesel oil;
5) consumption of wood fuel.

For calibration of weights in estimation of electricity and gas consumption we used auxiliary information obtained from "Survey on activities of public electricity producers" (1- energetics) and "Survey on the use of natural gas" 1-gas.

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.

Analytical methods are used in extrapolation of data on household consumption of energy resources obtained in the surveys conducted once in 5 years. The data are corrected basing on the degree days revision.

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.

Free of charge publications (8 pages)

Energy Balance of Latvia;
Expenditure on energy resources;
On consumption of renewable energy resources in 2010;
Consumption of energy resources in Latvia in 2010
On activities of combined heat and power plants in 2010
Users can subscribe to news releases.

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

http://data.csb.gov.lv/DATABASEEN/vide/databasetree.asp?lang=1

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

Aggregated data compiled within the framework of the National Programme for Statistical Information is available free of charge and integrated in the home page. Information, which is not available at the CSB home page, can be obtained on a charge.
Pricing
Charge is calculated according to the Pricelist of chargeable services approved by the Cabinet of Ministers and published on our home page.

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.)?

In case of new methodology, new definitions or new classifications, if the human resources allow, we do our best to recalculate available data, starting from the basic year 1990.

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

CSB has started to collect data on fuel consumption in domestic aviation and domestic navigation in 2006. For the time period 1990 – 2005 the data on fuel consumption were revised (using the study "Evaluation of fuel consumption for domestic aviation and navigation", FEI, 2004).

In 2011 CSB conducted "Survey on Household Energy Consumption 2010". This survey is conducted once in 5 years, and data between the surveys are extrapolated. According to the data received on 2010, some fuel consumption in household sector was revised for 2009.

4.3. Microdata

Describe how microdata are stored.

Data are entered, collected and stored in the CSB ISDMS system (Integrated Statistical Data Management System), which is integrated in all 5 statistical data collection and processing centres.

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

Microdata are not available for scientific and/or public use.

The only exception is made in cases when data are produced and disseminated as a list of enterprises (e.g., 10 largest enterprises in the sector). In such situations dissemination covers only indicators characterising enterprise as well as information that in compliance with the legislation of Latvia is considered to be suitable for publication without application of the confidentiality regulations. Enterprises should be grouped in alphabetic sequence – they can not be listed by the size, because it increases the risk of individual data identification.

4.4. Confidentiality

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

Handbook of Statistical Confidentiality (2009) describing methods used by the CSB to ensure data confidentiality

CSB does not publish information on aggregates, if it is confidential.
Statistical data can be regarded as confidential, if they allow direct or indirect identification of respondents, other natural persons and legal entities (also their structural units) providing the statistical data and thus are revealing individual information.
Confidential data, produced only for statistical purposes, can be used solely for statistical aims – to develop aggregates, group data by various characteristics and analyze socio-economic phenomena and processes.

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

Ensuring confidentiality for information on aggregates
Information on aggregates is regarded as highly confidential, if:
• indicator of the aggregates is obtained from one, two or three statistical units (companies);
• proportion of one statistical unit in the respective indicator accounts for 80% and more;
• total proportion of two statistical units accounts for 90% or more.

Describe how confidential data are handled.

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.

All data included in the Energy Balance of Latvia are largely used by enterprises and private 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.

First step of data control includes aggregation at enterprise level, using automatic control and validation tools in ISDMS (Integrated Statistical Data Management System), as well as data comparison with values reported in other surveys (e.g., with survey "1-Industry": comparison of charcoal and fuelwood briquettes and pellets produced).

In the second step the staff of the Energy Statistics Section carries out a quality control. It includes analysis of data at enterprise level and possible correction.
Data checking includes:

- comparison of data with previous period;
- checking of correct unit measurement (e.g., litres converted into tons for oil products);
- comparison of data with other surveys;
- checking if the prices for concrete product are correct;

if enterprise shows production of wood pellets, briquettes or charcoal, checking whether it shows resources (firewood, wood wastes, wood chips) for this kind of production.

Problems arise in respect to separate enterprises if measurement units mentioned in the survey differ from the units used by enterprises. In order to help enterprises in fill out the questionnaires correctly, the staff of the Energy Statistics Section has elaborated recalculation coefficients from one measurement unit into another.

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.

Un-weighted unit response rate was 92%.
Weighted unit response rate was 90%.

Sampling errors

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

Coefficients of variation are calculated for key indicators:
consumed electricity – 0.017;
consumed natural gas – 0.117;
received heat – 0.013;
consumed petrol – 0.092;
consumed diesel oil – 0.032.

Other sources of error

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

Over-coverage rate

Estimated over-coverage rate is 5%.
The sampling frame has no updates, therefore over-coverage rate is estimated by formula:

$$over\,\mathrm{cov} = 100 \times \frac{\sum w_{over\,\mathrm{cov}}}{N}$$

, where N is total number of units in the sampling frame and $w_{over\,\mathrm{cov}}$ is design weight of sampled unit, which does not belong to the target population.

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).

Preliminary results:
on 100th day - information to the Bank of Latvia on main energy resource consumption by branch;
on 120th day – to the Ministry of Economics and Ministry of Agriculture (preliminary heat balance and fuel consumed by transformation sector).

Final results:
on 210th day (informative leaflet "Energy Balance of Latvia");
on 270th day (Internet data base of the Central Statistical Bureau);
on 330th day (data transmission to Statistical Office of the European Union (Eurostat), International Energy Agency (IEA), United Nations (UN)).

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.

Data are published in accordance with the CSB publication calendar; Data are sent to Eurostat in accordance with the CSB work plan and terms set by the Eurostat.

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)?

Data are published in accordance with the CSB publication calendar. Data users in Latvia may access the product data in different media: • starting from 2005 users can find data on the website of the Central Statistical Bureau of Latvia: www.csb.gov.lv • printed form (Statistical Monthly Bulletin, Statistical Yearbook); • if data users need more detailed data, they can find them in the above publications, they may ask for product data directly Energy Statistics Section in a letter or e-mail. Users have to pay a fee for this service.

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.

Data are comparable since 1990. There are no breaks in time series.

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.

Annual energy statistics data are comparable to other EU countries (especially with countries producing or using similar energy resources).

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.

Preliminary and final data are of high coherence level. Preliminary data are more common, while the end data are much more detailed.

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?

Generally monthly and yearly data are coherent. If necessary, monthly data are corrected when yearly data are received. In some cases monthly data supplement yearly data (e.g., we use monthly survey "2-bunkering" to fill in Energy Balance line "bunkering" for some oil products).

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

Energy statistics data are coherent with: - data produced by other CSB departments, e.g., data from monthly survey Intrastat “Survey on trade with the Member States of the European Union”; - annual report of the State Revenue Service "Turnover of oil products (fuel)”

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.

http://data.csb.gov.lv/DATABASEEN/vide/databasetree.asp?lang=1

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.

Data collection and processing

Data concerning energy statistics are collected and processed at first in the *Data Collection Centre.* The CSB has main program used to enter the data, as well as to process information with automatic control and validation tools - ISDMS (Integrated Statistical Data Management System).

ISDMS is divided into following business application software modules, which have to cover and support all phases of the statistical data processing:

- Core metadata base module;
- Registers module;
- Data entry and validation module;
- Data aggregation module;
- Data analysis module;
- User administration module.

After the individual data control, analysis and correction, if necessary, aggregated tables in ACCESS program are prepared, using coefficients elaborated in the CSB Mathematics Division. In next step the aggregated tables are analysed by comparing them

- with previous periods
- with information from the State Revenue Service
- by branches
- by kind of energy resources.

If necessary, corrections are made at enterprise level or by recalculating the coefficients for extrapolation to country as a whole.

Questionnaire "2-EK"

LATVIJAS REPUBLIKAS CENTRĀLĀ STATISTIKAS PĀRVALDE
Lāčplēša iela 1, Rīga, LV-1301, fakss: 67366658, www.csb.gov.lv

REPORT ON PURCHASE AND CONSUMPTION OF ENERGY RESOURCES

annual

2-EK

06.11.2006. Ministru kabineta noteikumu Nr.922 pielikums Nr.4 VSPARK 10121014

To be submitted till 25 January 2012

For submission of electronic questionnaire: https://eparskats.csb.gov.lv

In accordance with the Official Statistics Law the Central Statistical Bureau guarantees the confidentiality of the information you will provide

Respondent

Name: .....

Mailing address: .....

Address of bureau or operating unit: .....

Telephone: ..... *Fax:* .....

E-mail: .....

VAT number: | | | | | | | | | | | |

Person filling in the questionnaire

Name, surname: .....

Telephone: ..... *E-mail:* .....

1. Energy balance

telephone for consultations: ***67366957***

ATTENTION! In column 6 all fuel consumed for production of electricity and part of the fuel used for the production of heat for sale should be indicated.
Note the following coherence among the columns: 1+2+3=5+8+10+11+ section 3.
Coefficients for the recalculation of litters into tons (volume is multiplied by coefficient and divided by 1000):
for gasoline - 0.74; diesel oil – 0.84; biodiesel – 0.89; kerosene – 0.81; oven fuel – 0.8; LPG – 0.53; lubricants 0.9.

(one decimal place)

	Unit	Code	Opening stock level	Production	Received*			Consumption *				Sold in Latvia		Export	Closing stock level
					total		From column 3 import	Total (including losses) (≥ column 6+7 + column 1 of section 2.)	Of which			total	Of which residential		
					quantity	In LVL (without VAT)			For electricity production and heat for sale	For lightening, heating, technological needs (without transport and losses)	Of which for production				
A	B	C	1	2	3	3a	4	5	6	7	7a	8	9	10	11
Heat **	MWh	1000	X				X		X					X	X
Electricity ***	thsd kWh	1010	X												X
Aviation gasoline	t	1020		X					X						
Motor gasoline	t	1030							X				X		
Of which with an octane number 92	t	1031							X						
with an octane number 95	t	1032							X						
with an octane number 98	t	1033							X						
Biogasoline E85 (with 85% ethanol)	t	1035							X						
Jet fuel (aviation kerosene)	t	1040		X											
Other kerosene	t	1050		X											

* Including fuel purchased and used abroad (without crossing Latvia border).

** Commercial companies, institutions, organisations, cooperative societies of apartment owners and management societies of apartment owners owning or managing housing stock are indicating only heat received and consumed for own use.

*** Data on consumption of electricity are filled in by enterprises and organisations that directly have concluded a contract with the electricity producer.

(Continued) (one decimal place)

	Unit	Code	Opening stock level	Production	Received* *			Consumption*				Sold in Latvia		Export	Closing stock level
					total		From column 3 import	Total (including losses) (≥ column 6+7 + column 1 of section 2)	Of which			total	Of which residential		
					quantity	In LVL (without VAT)			For electricity production and heat for sale	For lightening, heating, technological needs (without transport and losses)	Of which for production				
A	B	C	1	2	3	3a	4	5	6	7	7a	8	9	10	11
Diesel oil	t	1060											X		
Biodiesel (bio from 5 till 30%)	t	1062													
Biodiesel (bio more than 30%)	t	1063													
Oven fuel	t	1070		X											
Residual fuel	t	1080													
with sulphur content lower than 1%	t	1081													
with sulphur content of 1% or higher	t	1082													
Marine fuel	t	1090													
Natural gas	thsd m^3	1100		X										X	
LPG	t	1110		X											
Of which auto gas	t	1111		X					X	X	X				
Other oil products	t	1120													
Of which white spirit	t	1121		X					X						
paraffin waxes	t	1122		X											
petroleum coke	t	1123		X											

* Including fuel purchased and used abroad (without crossing Latvia border).

(Continued) (one decimal place)

	Unit	Code	Opening stock level	Production	Received* *			Consumption *				Sold in Latvia		Export	Closing stock level
					total		From column 3 import	Total (including losses) (≥ column 6+7 + column 1 of section 2)	Of which			total	Of which residential		
					quantity	In LVL (without VAT)			For electricity production and heat for sale	For lightening, heating, technological needs (without transport and losses)	Of which for production				
A	B	C	1	2	3	3a	4	5	6	7	7a	8	9	10	11
Used oils	t	1125													
Oil bitumen	t	1131		X					X						
Lubricants	kg	1132							X						
Biodiesel (pure)	t	1133													
Glycerine for heating	t	1134													
Bioethanol	t	1135													
Biogas	thsd m^3	1137	X												X
Coal	t	1140		X											
Of which anthracite	t	1141		X											
Coal briquettes	t	1160		X											
Milled peat	t	1171					X								
Sod peat	t	1172					X								
Peat briquettes and pellets	t	1173					X								
Straw	t	1175					X								
Shale oil	t	1180		X											
Oil shale	t	1190		X											
Coke oven coke	t	1200		X											
Semi coke	t	1210		X											

* Including fuel purchased and used abroad (without crossing Latvia border).

(Continued)

(one decimal place)

	Unit	Code	Opening stock level	Production	Received* *			Consumption *				Sold in Latvia		Export	Closing stock level
					total		From column 3 import	Total (including losses) (≥ column 6+7 + column 1 of section 2.)	Of which			total	Of which residential		
					quantity	In LVL (without VAT)			For electricity production and heat for sale	For lightening, heating, technological needs (without transport and losses)	Of which for production				
A	B	C	1	2	3	3a	4	5	6	7	7a	8	9	10	11
Municipal waste for heating	t	1220													
Fire wood	$m^{3\ solid}$	1230													
Wood residues	$m^{3\ loose}$	1240													
Wood chips	$m^{3\ loose}$	1250													
Wood briquettes	t	1260													
Pelleted wood	t	1270													
Charcoal	t	1280													

* Including fuel purchased and used abroad (without crossing Latvia border).

2. Consumption of energy resources for transport (from column 5 of section 1)

(one decimal place)

	Unit	Code	Total	Of which								Purchased and used *abroad* (without crossing Latvia border)
				Road transport – total* (column 3+4+5)	Of which			Tram and trolley-bus	Rail, including industrial railways	Pipeline transport	Domestic navigation	
					passenger cars	freight cars	bus					
A	B	C	1	2	3	4	5	6	7	8	9	10
Electricity	thsd kWh	2010		X	X	X	X					X
Aviation gasoline	t	2020		X	X	X	X	X	X	X	X	
Motor gasoline	t	2030						X	X	X		
Jet fuel	t	2040		X	X	X	X	X	X	X		
Of which for inland consumption	t	2041		X	X	X	X	X	X	X		X

* If transport vehicle has been registered as special passenger car, the fuel consumption should be indicated in col. 3, if it has been registered as special freight car – in col. 4, if as special bus - in col. 5.
Col. 1 includes indicators from col. 10 and they are broken down by mode of transport, except fishery sector. Resources consumed by fishing vessels are indicated in col. 10, as well as col. 5 and 7 of sect. 1.

(Continued) (one decimal place)

	Unit	Code	Total consumption	Of which								Purchased and used ***abroad*** (without crossing Latvia border)
				Road transport – total* (columns 3+4+5)	Of which			Tram and trolley-bus	Rail, including industrial railways)	Pipeline transport	Domestic navigation	
					passenger cars	freight cars	bus					
A	B	C	1	2	3	4	5	6	7	8	9	10
Diesel oil	t	2060						X				
Of which in inland waterways	t	2061		X	X	X	X	X	X	X		X
Biodiesel (bio from 5 and more)	t	2062						X				
Residual fuel	t	2080		X	X	X	X	X	X			
Of which in domestic navigation	t	2081		X	X	X	X	X	X	X		X
Marine fuel	t	2090		X	X	X	X	X	X	X		
Of which in inland waterways	t	2091		X	X	X	X	X	X	X		X
Natural gas	thsd m^3	2100						X	X	X	X	X
LPG	t	2110						X	X	X	X	X
Biodiesel (pure vegetable (rape seed) oil)	t	2133						X	X	X	X	

* If transport vehicle has been registered as special passenger car, the fuel consumption should be indicated in col. 3, if it has been registered as special freight car – in col. 4, if as special bus - in col. 5.
Col. 1 includes indicators from col. 10 and they are broken down by mode of transport, except fishery sector. Resources consumed by fishing vessels are indicated in col. 10, as well as col. 5 and 7 of sect. 1.

3. Consumption of energy resources for international flights and voyages (supply to ships and airplanes)

Aviation gasoline	t	3020	
Jet fuel*	t	3040	
Diesel oil**	t	3060	
Residual fuel**	t	3080	
*Marine fuel***	t	3090	

** Indicates the volume of fuel supplied for international flights of the airplanes (excluding domestic flights)*
***Indicates the volume of fuel supplied for international voyages of ships flying the flag of any state (bunkering)*

Time spent for filling the questionnaire ☐ hours ☐ minutes

_____ _____, 20__

Manager _____
/Name, surname, signature/

Instructions to fill in the form "Report on purchase and consumption of energy resources" (2–EK)

The report should be filled in by the employee responsible for the consumption of energy resources in enterprise.

1. Column 1 "Opening stock level" and column 11 "closing stock level" indicate the volume of energy resources in all warehouses, workshops, heat plants, stationary and mobile tanks, construction sites and other storage facilities of the enterprise, on ships that in the day when the report is filled in are in ports and piers, in locomotives in depots, and in car beacons. Residuals of liquid oil products (residual fuel oil, diesel oil, gasoline) include all volume in tanks, including the one that can not be poured off ("non-usable residuals"). Also energy resources owned by the enterprise and stored in other enterprise should be indicated. Enterprise, that at the end of the reference period is storing the energy resources owned by other company, does not include the volume of these energy resources in own report.

2. Column 3a indicates the costs of received energy resources in LVL (excluding VAT). Heat and electricity costs are indicated according to the bills received from suppliers.

3. Column 4 indicates the volume of energy resources imported into Latvia (from abroad and EU Member States) for own use or sale in domestic market (including imported from customs warehouses). Import includes also energy resources that enterprise has purchased abroad and used for own needs outside Latvia. In this column energy resources imported under customs procedure "7" should not be indicated (Except import for bunkering needs. In this case also import under "7" should ne indicated).

4. Column 5 indicates the volume of fuel, gasoline, heat, and electricity actually consumed during the reference period, including the consumption for production, construction, transport, agricultural and other needs. Also all heat, electricity, fuel and gasoline losses and shortages arising during transportation and storage are included. The column includes also volume of energy resources used for non-energy needs (e.g., volume of peat used for the production of peat briquettes).

5. If energy resources have been used for transport or their losses have incurred, the volume in column 5 should be higher than the sum of columns 6 and 7.

6. Column 6 indicates all volume of fuel consumed in CHP plants to produce electricity, and only the volume of fuel consumed in heat plants (boilers) and CHP plants that has been used for the production of heat for further sale to consumers.

7. Column 7 indicates the volume of heat, electricity, fuel, and gasoline consumed for lighting, heating and production. Those are energy resources consumption of which is related with the output of produced products and provision of services. Here the following should be indicated:

   7.1. gasoline consumed for tractors, agricultural and forestry needs, irrigation equipment, chippers and fishing vessels (consumption for transport should be indicated in column 5 of the section 1 and in section 2);

   7.2. consumption of fuel, heat and electricity in industrial and heating furnaces, devices and other technological equipment, power engines running machinery and equipment;

   7.3. consumption of fuel, heat and electricity for heating, lighting, ventilation, supply of hot water in production and administrative buildings. Electricity producers indicate consumption of energy resources for own production use.

8. Column 7.a indicates the volume of heat, electricity, fuel and gasoline consumed for the production of products and provision of services, and this volume is lower than or equal to column 7.

9. Column 8 indicates the volume of all energy resources (heat, electricity, fuel and gasoline) sold or supplied to enterprises and residents within the territory of Latvia. This column includes also the volume of energy resources supplied to enterprises for further supply to gas stations, firewood and coal areas, warehouses and other points of sale.

10. Column 10 indicates the export to 3rd countries and EU countries. The fuel supplied for ships (bunkering) is not indicated – it should be indicated in the section 3.

11. Column 3 of the row 1000 indicates the heat received from outside. If heating costs are included in rent agreement, the column 3 should not be filled in.

12. Column 2 of the row 1000 is filled in by the merchants producing heat for sale and filling in the questionnaire "Report on production of heat and electricity" (1 – enerģija (annual)). If fuel has been used for own needs and its consumption is indicated in column 7, the volume of heat produced should not be indicated in the column 2.

13. Column 3 of the row 1010 indicates received active energy (thsd kWh) and column 3a - the corresponding sum in LVL (including subscription fee, charge for current of inlet protection apparatus, payment for permitted load and maintenance and development of transmission capacity).
    Column 4 is filled in only by the direct importer.
    Columns 8 and 9 (sold) and column 10 (export) is filled in only by the electricity producers.

14. Row 1030 indicates the volume of gasoline and motor spirits of all grades (special gasoline acquired and used as solvents should not be indicated).

15. The volume of gasoline, diesel oil, oven fuel, LPG and kerosene is indicated in tons. If initial accounting has been made in litres, the volume should be recalculated into tons, multiplying the litres by coefficient and dividing the result by 1000. Coefficients:

    16.1. gasoline – 0.74;

    16.2. diesel oil – 0.84;

    16.3. biodiesel – 0.89;

    16.3. bioethanol – 0.77;

    16.4. kerosene – 0.81;

    16.5. oven fuel – 0.80;

    16.6. LPG – 0.53;

    16.7. lubricants (should be indicated in kg) – 0.9.

16. Row 1062: biodiesel (bio from 5 to 30% excluding) – biodiesel or vegetable (rape seed) oil constitutes from 5 to 30 (excluding) volume percent of total volume of oil products.

17. Row 1063: biodiesel (bio from 30% and more) - biodiesel or vegetable (rape seed) oil constitutes 30 and more volume percent of total volume of oil products.

18. Row 1070 indicates the volume of oven fuel. It is a liquid fuel called distillate.

19. Row 1110 indicates the volume LPG (propane, butane, isobutane, propane – butane).

20. Row 1125 indicates the volume of used oils, but only if they were used as fuel.

21. Row 1131 indicates the volume of oil bitumen. Bitumen (petroleum bitumen) – brown or black, is obtained as a crude oil distillation residue and used mainly in road building. Natural asphalt is not included.

22. Row 1132 includes motor spirits, compressor and turbine lube oils, hydraulic fluids, white oils, liquid paraffin, mechanism pinion gear oils, other lube oils and other oils. It should be noted that in this row column 5 is equal to column 7.

23. Row 1133: biodiesel (pure vegetable (rape seed) oil) – biodiesel that in full has been acquired from vegetable (rape seed) oil, and vegetable (rape seed) oil sold or used as fuel or gasoline.

24. Row 1134: glycerol (glycerine) – is a by-product of the biodiesel synthesis. Only the part of glycerol directly burned for the production of electricity and/or heat should be indicated.

25. Row 1135: bioethanol (denatured alcohol) – ethanol acquired from biomass or biodegradable faction of waste to use it as a boigasoline.

26. Rows 1171, 1172, and 1173 indicate only fuel peat in tons, not recalculating its weight into relative humidity. The volume of agricultural peat is not included in the report.

27. Row 1175 indicates straw. Here also flax shives should be indicated.

28. Row 1200 indicates the volume of blast furnace and foundry coke, size of which is 25 mm and more. Metallurgical coke, nut coke and slack coke are indicated at dry weight. E.g., if moisture content of slack coke comprises 10%, the natural weight of it is multiplied by 0.9, i.e. dry weight of it indicated in the report will be 90% of the natural weight.

29. Row 1220 indicates only the part of the municipal waste that was directly burned for the production of electricity and/or heat.

30. From row 1230 to 1270 the volume of wood is indicated at mentioned units. For the recalculation the following average coefficients should be used:

    31.1. 1 stacked cubic meter = 0.65m^3 (solid volume);

    31.2. 1 m^3 = 2.5 loose m^3;

    31.3. 1 m^3 (w=40%, where w is moisture) = 0.625-0.75 t;

    31.4. 1 loose m^3 = 280 kg.

31. Row 1230 indicates the volume of firewood.

32. Row 1240 indicates the volume of wood waste (sawdust, shavings, bark). Here also the volume of sawdust or mill dust used for the production of wood briquettes, pelleted wood and charcoal should be indicated.

33. Row 1250 indicates only the volume of wood chips. Cellulose chips should not be indicated.

34. Row 1260 indicates the volume of wood briquettes.

35. Row 1270 indicates the volume of pelleted wood.

36. Row 1280 indicates the volume of charcoal.

37. Row 2062 indicates all volume of biodiesel used for transport (biogasoline with 5 volume percent and more of the total volume of oil products).

Environment and Energy Statistics Section