

Energy Balance

Metadata

National Bureau of Statistics of the Republic of Moldova (NBS)

1. Contact Information

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2. Metadata Update

2.1. Last certification of metadata

19.01.2018

2.2. Last update of metadata

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3. Statistical Presentation

3.1. General description

The energy balance of the Republic of Moldova represents an ample work of the NBS referring to the energy resources used on the territory of the Republic of Moldova from all energy-producing sources.

The energy balance is developed annually and covers indicators related to the production, import, export, distribution, and final consumption of primary resources and transformations, so as to ensure the economic activities, as well as the household consumption during the reported year.

It is structured in 2 major directions:

- Energy balance expressed in energy units according international standards
- Energy products balance expressed in corresponding natural units

Beginning with 2010 Energy balance of the Republic of Moldova is presented in accordance with international standards (IEA, UN, Eurostat) in conventional energy units (oil equivalent, coal equivalent, joules)

3.2. Concepts and definitions

3.2.1. Definitions

The energy balance is composed of two large compartments: “**Resources**” and “**Distributions**”

The “*Resources*” compartment mirrors the sources producing energy resources, while the “*Distributions*” compartment – the main distribution and consumptions directions.

The “**Resources**” compartment of the energy balance contains information on creation of energy resources:

- *production of primary energy and recovered energy;*
- *import;*
- *stocks at the beginning of the period.*

Production of primary energy covers the energy obtained from the exploitation of energy sources existing in nature (in deposits, forests, water flows, etc.), which may be used as such or after a preliminary processing (sorting, washing, purification, etc.) which does not change their initial structure, but only improves the quality so as to be used as fuel or raw material for producing other combustible or non-combustible products. The primary energy production also covers: production of hydro-electrical

energy, solar energy, geo-thermal energy, wind energy, bio-gas, etc. Other *sources of recovered energy* include combustible products obtained as a result of some activities, other than those of energy production, such as: wood processing, agriculture, etc.

Import covers quantities of primary energy which is transformed and entered on the territory of the country from abroad. The volume which transits the national territory is not included.

Stocks at the beginning of the reference period cover the stocks of primary energy and transformed energy held by producers, distributors, and consumers, as well as those under economic units' custody.

The **“Distributions” compartment of the energy balance** covers the quantity of distributed energy resources by destination, loss, export, and stock of energy by the end of the year. **Sector for transformation** in other energy sources is presented by quantities of fuel consumed in installations for electricity production (regardless of the installation type and economic unit type), as well as for production of thermal energy. **Final consumption of resources for production-technological needs** is represented by consumptions meant for industrial production (specified by types of activities), in agriculture, constructions, transportation, illumination, heating, ventilation, water supply, and other economy sectors.

Export covers the quantities delivered from outside of the country. For electricity – export covers the quantities delivered by the energy system. The electricity transiting the country is not covered.

Losses cover:

- for electricity: technologic consumption in transportation, transformation, and distribution installations;
- for thermal energy: quantity of thermal energy from used steam and condensation which is not returned to the steam boilers; thermal energy as hot water which is not returned to the hot water production source;
- for fuel: quantities lost during transportation, manipulation and storage performed by producers, distributors, and consumers.

Stock by the end of the period covers the quantities of fuel and combustible held by producers, distributors, and consumers by the end of the reference period, regardless of their source.

3.2.2. Unit of measurement

The energy balance is developed in natural units (for energy products balance) and in conventional energy units (coal equivalent, oil equivalent, and Joules)

3.2.3. Formula of calculation

Formula of calculation separately for every energy source (energy product):

Stock by the end of the reference period (**Vsf.an**) equals the sum of the stock at the beginning of the period (**V inc.an**), the quantity of local production (**Vprod.**), and the import from outside the country (**Vimp.**) minus internal consumption (**Vcons.int.**) and minus export abroad (**Vexp.**) :

$$\text{Vsf.an} = \text{V inc.an} + \text{Vprod.} + \text{Vimp.} - \text{Vcons.int.} - \text{Vexp.}$$

3.3. Used classifications

Nomenclature of energy products recommended by the International Recommendations for Energy Statistics (IRES), UN, 2011.

3.4. Scope

3.4.1. Sector coverage

The survey covers the units producing electricity and thermal energy, as well as other local energy sources, such as renewable energy sources (fire wood, agricultural combustible waste, etc.) photovoltaic energy, wind energy and consumers of energy resources which have legal personality.

3.4.2. Statistical population

The survey is organized based on the functional principle and implies the survey of all units which produce, import, distribute, and finally consume energy sources regardless of their main activity of the economic unit – legal entity.

3.4.3. Geographical coverage

The information is developed and disseminated without the data of the enterprises and organizations from

the left part of the River Nistru and Bender municipality.
3.4.4. Time coverage
Time series are available including on the NBS site starting with 1997
3.5. Level of disaggregation
Data are available by types of fuel and energy in accordance to the the IEA and Eurostat standards.
3.6. Periodicity of dissemination
Annually
3.7. Timeliness
According to the Statistical Activities Program, data are available in September after the reported year.
3.8. Revision
Data are final when disseminated for the first time.
3.9. Period of reference
The reported year is the period of reference.

4. Data Collecting and Processing
4.1. Data source
4.1.1. Statistical surveys
Data are collected based on the annual statistical survey according to the statistical report 1-BE “Energy Balance”.
4.1.2. Administrative sources
To fully identify and cover in the survey the economic units importing energy resources, the data from bills of entry are used; these documents are supplied by the Customs Service of the Ministry of Finance.
4.1.3. Estimations
In the Energy balance, edition 2017 (recalculation beginning with 2010), for the first time were made estimations of the consumption of renewable energy in households (biomass of agricultural waste, other households waste etc.) using Energy Consumption in Households Survey data.
4.2. Characteristics of the statistical survey
4.2.1. Objective and background
<p>The annual statistical survey “Energy Balance” aims to present the indicators regarding the formation of primary and integral energy resources, energy distribution and final consumption according to the main activities of the national economy.</p> <p>For the first time, the energy balance was developed in 1990;</p> <p>During 2010-2017 methodological changes were made, as well as changes for implementing the IEA and Eurostat standards.</p>
4.2.2. Statistical unit
The statistical unit is the enterprise, organization with legal personality, budgetary institution.
4.2.3. Circle of units covered in the survey
Annually, the survey covers over 16 000 statistical units representing energy sources’ producers, importers, distributors, and consumers.
4.2.4. Survey periodicity
Annually
4.2.5. Data collecting
The collecting method is self-registration performed by economic units and submission of the statistical report to the statistical territorial office – by February 20 of the year following the reported year.

4.3. Processing and compilation of data
4.3.1. Validation of data
Data are verified and analyzed from their quality point of view, especially in relation to their internal coherence, temporal coherence, as well as coherence with other data, at the first stage – by the territorial statistical body, and afterwards – at the central level by NBS. The control methods allow verifying: <ul style="list-style-type: none"> – integrity of the data filled in the report; – compliance of the identification data; – observance of logical conditions for data correlation. Controls are based on visual methods, as well as automated ones, by using soft applications.
4.3.2. Compilation/extrapolation of data
Compilation represents some simple summation, but also application of methods for transformation in different units of measurement using different conversion coefficients.
4.3.3. Adjustments
Not applicable.
4.3.4. Quality assurance
<p>The quality of statistical data is assured by observing the fundamental principles of official statistics approved by the UN Economic Commission for Europe in 1992 (and Statistical Commission/UN in 1994), as well as those set forth in the Republic of Moldova Law on Official Statistics.</p> <p>In its activity of producing statistical information, NBS pays huge importance to ensuring high quality of data. In this respect, a number of measures for quality assurance are carried out at every stage of the statistical process: organization of statistical surveys, collection, processing, and development of statistical information.</p> <p>Important efforts are undertaken to ensure the plenitude and quality of data presentation by the respondents included in the statistical surveys.</p> <p>Errors, inconsistencies, and suspicious data are brought to light so as to be verified and corrected.</p> <p>The primary data are verified and analyzed from internal coherence point of view (within the questionnaire), temporal coherence (with data from previous periods), with data of other similar units, as well as with data available from other statistical surveys and administrative data sources. The missing or inconsistent data are imputed, if needed.</p> <p>To ensure the quality of the primary data, meetings (seminars) are organized with interviewers – respondents for explaining the definitions, the correct way to fill in the questionnaires, especially when they are modified or implemented.</p>
4.4. Data accuracy
4.4.1. Non-response rate
Not applicable, as this statistical survey is carried out on exhaustive basis.
4.4.2. Sampling errors
Not applicable, as this statistical survey is carried out on exhaustive basis.

5. Comparability and Coherence
5.1. International comparability
International comparability is ensured, first of all, due to using the standardized nomenclature of energy products, presenting the energy balance in a format harmonized with the IEA and Eurostat format, as well as of the methodology for indicators' calculation.
5.2. Comparability over the time
Comparability over the time is not ensured.
5.3. Coherence with other statistics
Coherence with other statistics, including of the industrial production and external trade is ensured by balancing the centralized and primary data on economic units with considerable volumes of energy

resources' production, import, and export collected in the respective survey against the data from bills of entry.

6. Institutional Mandate (normative-legal basis)

The NBS activity is based on respecting the Republic of Moldova Constitution, the Law on Official Statistics No. 93 dated 26.05.2017, other legislative and normative acts, NBS management decisions and orders.

The Law on Official Statistics regulates the organization and operation of the unique system of official statistics, establishing the general principles for collecting, processing, centralizing, diminishing, and stocking statistical information (art.1).

Art. 5 of the Law provides that the production of statistical information is based on respecting the following principles: impartiality, objectiveness, relevance, transparency, confidentiality, cost-efficiency etc.

Being the central statistical body, the National Bureau of Statistics is an administrative authority created under the Government for leading and coordinating the activity in the statistics area.

In line with the Government Decision No. 1034 dated 29.12.11 on approval of the NBS Regulation and the Nominal Composition of the NBS Collegium, the National Bureau of Statistics:

- develops alone or jointly with other central administrative authorities and approves the methodologies for statistical surveys, as well as the methodologies for calculating statistical indicators, in line with the international standards, especially the EU standards, and with the advanced practice of other countries, and taking into account the peculiarities of the social-economic conditions of the Republic of Moldova;
- organizes, in line with the Program of Statistical Work, approved annually by the Government, statistics surveys regarding the economic, social, and demographic situation and development of the country, carrying out collection, processing, centralization, stocking, and dissemination of statistical data;

The legislative and normative acts ruling the activity of the NBS are available on its official page www.statistica.md, under About NBS (<http://www.statistica.md/pageview.php?l=en&idc=323&>)

7. Confidentiality

7.1. Principles

According to art. 19 of the Law on Official Statistics No. 93 dated 26.05.2017, producers of official statistics shall take all regulatory, administrative, technical and organizational measures to protect confidential data and prevent their disclosure.

Chapter VII of the above-mentioned law stipulates that the data collected, processed and stored for the production of statistical information are confidential if they allow the direct or indirect identification of the respondents.) The following shall not be considered confidential:

- a) data that can be obtained from publicly accessible sources according to the legislation;
- b) individual data on address, telephone, name, type of activity, number of employees of legal entities and individual entrepreneurs;
- c) data referring to public enterprises, institutions and organizations funded from the budget, submitted at the request of the public administration authorities.

According to the Law on Official Statistics, art. 20, access to confidential information is granted to the persons who, according to their official functions, participate in the production of statistical information shall have access to individual data in so far as individual data are necessary for producing this information.

The same article stipulates that the access to individual data, which do not allow the direct identification of respondents, may be given for scientific survey projects, whose expected results do not refer to identifiable individual units, under the regulation approved by the central statistical authority.

Art. 23 (5) of the Law stipulates that the the statistical information cannot be disseminated to users

if it refers to 1-3 statistical units.

7.2. Practical assurance of the confidentiality rules

To ensure the protection of confidential statistical data in compliance with the Law on Official Statistics No. 93 dated 26.05.2017, the National Bureau of Statistics undertakes all the regulatory, administrative, technical, and organizational measures to protect the confidential statistical information and prevent its disclosure.

In compliance with the above-mentioned law, the employees of producers of official statistics, including temporary employees who, according to their official functions, have direct access to individual data shall be obliged to observe the confidentiality of these data during and after termination of employment.

Before being disseminated, the statistical data are verified if they meet the protection requirements set for confidential data. If the statistical data contain confidential information (see p. 7.1), they are not disseminated, but aggregated at the minimum available level which ensures the protection of data confidentiality.

8. Access to Information and Dissemination Format

8.1. Access to information

8.1.1. Calendar of statistical publications

Annually the Advance release calendar is developed by NBS.

8.1.2. Access to the calendar of statistical publications

The press release calendar is posted on the NBS official page www.statistica.md.

8.1.3. Access to statistical data

According to the Law on Official Statistics No. 93 dated 26.05.2017, art. 23:

- a) Producers of official statistics shall be obliged to disseminate the statistical information within the deadlines specified in the programme of statistical works and in the press-release calendar.
- b) The dissemination of statistical information laid down in the programme of statistical works to all categories of users shall be made free of charge and under equal access conditions in terms of volume, quality and time of dissemination

The program of statistical work may be accessed on the web page www.statistica.md, under About NBS / legislative and normative acts (<http://www.statistica.md/pageview.php?l=en&idc=323&>)

The NBS web page www.statistica.md represents the most important information source for ensuring users' access to different statistical information and transparency about the NBS activity.

All the operative information, informative notes, time series, as well as the statistical publications developed by NBS are placed on its official web page.

8.2. Dissemination format

8.2.1. Operative information / Analytical notes

The operative information and analytical notes are published on the official page of NBS: <http://www.statistica.md> under Press Releases, according to the Press Release Calendar.

8.2.2. Publications

Publications developed by NBS covering statistical data on energy balance:

- “Energy Balance of the Republic of Moldova” (*only in electronic format*)
- “Statistical Yearbook of the Republic of Moldova”,

Access to publications:

- in electronic format, on NBS official page www.statistica.md, under Products and services / Publications <http://www.statistica.md/pageview.php?l=en&idc=350&nod=1&>)
- on hardcopies – in the NBS library (more details at the address <http://www.statistica.md/libview.php?l=en&idc=340&id=2400>)
- or may be bought from NBS office (more details on www.statistica.md, under Publications <http://www.statistica.md/pageview.php?l=en&idc=350&id=2219>)

8.2.3. Database/time series

Time series on energy balance indicators are placed:

- on the official page www.statistica.md, under Statistics by themes / Energy Statistics <http://www.statistica.md/category.php?l=en&idc=128> and Products and services / Publications
- Statistical databank <http://statbank.statistica.md/> , under Economic statistics / Energy resources

8.2.4. Questionnaires/data sent upon request from international organizations

International questionnaires of the IES, UN, EEC, Eurostat, CIS, etc.

8.2.5. Request for additional data

NBS makes available for users additional statistical information beyond the data presented in the statistical publications, informative notes, operative information, as well as the data placed on the official web page in the limits of available information, in line with the Law on Official Statistics. Request can be sent personally, by post, by e-mail or via online web form – www.statistica.md heading Products and services / Statistical data request http://www.statistica.md/solicitare_informatii_statistice.php?l=en

9. Useful References (links)

9.1. Accessibility of documentation on methodology

The methodology is available on the official page www.statistica.md , under Metadata (<http://www.statistica.md/pageview.php?l=en&idc=351&nod=1&>).

9.2. Accessibility of documentation on Evaluation Reports

The NBS assessment reports are available on the official page www.statistica.md , under About NBS / Assessments and opinions on NBS / Assessment reports (<http://www.statistica.md/pageview.php?l=en&idc=399&id=2739>).

9.3. Accessibility of information on user surveys

User surveys are available on the official page www.statistica.md , under About NBS / Assessments and opinions on NBS / User surveys (<http://www.statistica.md/pageview.php?l=en&idc=399&id=2740>).

9.4. Other useful references

IMF Special Data Dissemination Standard	http://www.statistica.md/SDDS/?lang=en
EUROSTAT database	http://ec.europa.eu/eurostat/data/database
UNData database	http://data.un.org/Browse.aspx
United Nations Economic Commission for Europe database	http://w3.unece.org/pxweb/Dialog/