Periodical Part

The energy balance of the Republic of Moldova ; 2018

Provided in Cooperation with:
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NATIONAL BUREAU OF STATISTICS
OF THE REPUBLIC OF MOLDOVA

THE ENERGY BALANCE OF THE REPUBLIC OF MOLDOVA

STATISTICAL COMPILATION

2018

Chisinau, 2019

FOREWORD

„The energy balance of the Republic of Moldova” is a large statistical collection, which presents the statistical indicators on the formation of primary and general resources of energy, distribution and final energy consumption on the main activities of the national economy during the period 2015-2018.

The collection is structured in 2 chapters and includes about 15 tables. Basic methodological notes are displayed for the basic indicators of the balance in the collection.

The collection is based on the annual statistical surveys carried out by the National Bureau of Statistics on enterprises, organizations, administrative authorities, other state and private institutions with legal personality.

Data on the consumption of **Biofuels and Waste** in the residential sector (population) were revised for 2015-2018. The recalculation of the data was done with the support of the Energy Community experts and was based on the results obtained in the "Research on Household Energy Consumption" conducted by the NBS for the 2015 reference year.

The research results can be found at:

http://www.statistica.md/public/files/publicatii_electronice/Consum_energie_gospoda/Consum_energie.pdf

For subsequent years, the data on the consumption of **Biofuels and Waste** in the residential sector (population) will be estimated using the same calculation method.

The publication does not include the data of the economic entities located in the territory on the left side of the river Nistru and mun.Bender.

This collection is published only in electronic version on the official website of the NBS.

Symbols used

- \- = not applicable
- 0 = negligible magnitude

In some cases, there may occur insignificant discrepancies between the totals and corresponding sums of the components, fact that could be explained by data approximations.

CONTENT

METHODOLOGICAL NOTES

1. LEGAL FRAMEWORK

The Republic of Moldova as a full state of the Energy Community has the obligation to calculate and disseminate accurate and updated data on the quantities, types, sources, production, supply, transformation and the consumption, to monitoring the impact and consequences of its policy in the energy field. The common framework for the production, transmission, evaluation and dissemination of comparable energy statistics under the Energy Community is given by Regulation (EC) No. 1099/2008 of the European Parliament and of the Council of October 22, 2008 on energy statistics, with further changes. The Regulation applies to statistical data concerning energy products and their aggregates.

At the national level, the present methodology has been approved by the National Bureau of Statistics Board Decision No. 6/3 of December 23, 2014.

2. COVERAGE AND DATA SOURCE

Data on energy products and their aggregates are collected from annual surveys as follows:

- Specific statistical surveys addressed to producers and suppliers of electricity - 6th it; 23-H; PE.
- Specific research addressed to natural gas distributors - 1-Gas.
- Specific statistical research addressed to producers and traders of primary and transformed energy, distributors and final consumers -1-BE.
- other sources, including administrative sources (other directions of statistical production, of NBS, ANRE, ministries, etc.)

Data collection is exhaustive for units producing electric and thermal energy also for the largest consumers of energy. In research, according to data for 2018 were included 20 040 statistical units with juridical personality.

Specific statistical surveys are addressed to all economic agents, whatever of their field of activity, according to a catalog prepared by NBS and in the basis of Classification of Activities from national economy CAEM-2. According to this classification, consumptions reported by businesses are grouped in:

- energy sector: CAEM-2. code 05, code 0892, code 06, code 0910, code 0721, code 19, code 35;
- industry and construction: CAEM-2. code 0710, code 0729, code 081, code 089, code 0990, code 10-43 (except code 19, code 35);
- transport: CAEM-2. code 49, code 50, code 51;
- agriculture: CAEM-2. Code 01, Code 02, Code 03;
- other economy branches: *CAEM-2. Section E, Section G (code 52, code 53), Section I, Section J, Section K, Section L, Section I, Section I, Section 0, Section P, Sec tion Q, Section R, Section S, Section T, Section U.*

Nomenclature of Goods, developed in accordance with the Harmonized Commodity Description and Coding System (HS-2007) and the Combined Nomenclature (CN). According to this nomenclature are classified imports and exports of energy products.

Nomenclature of industrial products and services PRODMOLD (list 2013). According to this nomenclature production (primary and transformed) of energy products is classified.

3. ENERGY PRODUCTS

Energy product	Definition
1. Solid fossil fuels and manufactured gases	
Anthracite	High rank coal used for industrial and residential applications. Generally, it has less than 10 % volatile matter and a high carbon content (about 90 % fixed carbon). Its gross calorific value is greater than 23 865 kJ/kg (5 700 kcal/kg), measured based on a mass of ash-free but moist coal.
Coking coal	Bituminous coal with a quality that allows the production of a coke suitable to support a blast furnace charge. Its gross calorific value is greater than 23 865 kJ/kg (5 700 kcal/kg) on an ash-free but moist basis.
Other bituminous coal (steam coal)	Coal used for steam raising purposes and includes all bituminous coal that is neither included under coking coal nor anthracite. It is characterised by higher volatile matter than anthracite (more than 10 %) and lower carbon content (less than 90 % fixed carbon). Its gross calorific value is greater than 23 865 kJ/kg (5 700 kcal/kg) on an ash-free but moist basis. If bituminous coal is used in coke ovens it should be reported as coking coal.
Sub-bituminous Coal	Refers to non-agglomerating coal with a gross calorific value between 17 435 kJ/kg (4 165 kcal/kg) and 23 865 kJ/kg (5 700 kcal/kg) containing more than 31 % volatile matter on a dry mineral matter free basis.
Lignite/brown coal	Non-agglomerating coal with a gross calorific value less than 17 435 kJ/kg (4 165 kcal/kg) and greater than 31 % volatile matter on a dry mineral matter free basis. Oil shale and tar sands produced and combusted directly should be reported in this category. Oil shale and tar sands used as inputs for other transformation processes should also be reported in this category. This includes the portion of the oil shale or tar sands consumed in the transformation process. Shale oil and other products derived from liquefaction should be reported on the Annual Oil Questionnaire.
Coke oven coke	The solid product obtained from carbonisation of coal, principally coking coal, at high temperature, it is low in moisture and volatile matter. Coke oven coke is used mainly in the iron and steel industry acting as energy source and chemical agent. Coke breeze and foundry coke are included in this category. Semi-coke (a solid product obtained from carbonisation of coal at low temperature) should be included in this category. Semi-coke is used as a domestic fuel or by the transformation plant itself. This heading also includes coke, coke breeze and semi-coke made from lignite/brown coal.
Patent fuel	A composition fuel manufactured from hard coal fines with the addition of a binding agent. The amount of patent fuel produced may, therefore, be slightly higher than the actual amount of coal consumed in the transformation process.
Gasworks gas	Covers all types of gases produced in public utility or private plants, whose main purpose is manufacture, transport and distribution of gas. It includes gas produced by carbonisation (including gas produced by coke ovens and transferred to gasworks gas), by total gasification with or without enrichment with oil products (LPG, residual fuel oil, etc.), and by reforming and simple mixing of gases and/or air, reported under the rows 'from other sources'. Under the transformation sector identify amounts of gasworks gas transferred to blended natural gas which will be distributed and consumed through the natural gas grid. The production of other coal gases (i.e. coke oven gas, blast furnace gas and oxygen steel furnace gas) should be reported in the columns concerning such gases, and not as production of gasworks gas. The coal gases transferred to gasworks plants should then be reported (in their own column) in the transformation sector in the gasworks plants row. The total amount of gasworks gas resulting from transfers of other coal gases should appear in the production line for gasworks gas.
Coke oven gas	Obtained as a by-product of the manufacture of coke oven coke for the production of iron and steel.
Other gases recovered	It is a secondary product resulted from production of steel in oxygen furnaces, recovered on leaving from furnace. Gases are known as converter gas, LD gas or

Energy product	Definition
	BOS gas. The amount of recovered fuel should be reported on a gross calorific value basis. It includes also not specified artificial gases which have not been mentioned above, such as fuel gases of solid carbonaceous origin recovered from chemical and manufacturing processes undefined otherwise.
Peat	A combustible soft, porous or compressed, sedimentary deposit of plant origin with high water content (up to 90 % in the raw state), easily cut, of light to dark brown colour. Peat used for non-energy purposes is not included. This definition is without prejudice to the definition of renewable energy sources in Directive 2001/77/EC and to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
2. Natural gas	
Natural gas	This data collection applies to natural gas, which comprises gases occurring in underground deposits, whether liquefied or gaseous, consisting mainly of methane. It includes both 'non-associated' gas originating from fields producing hydrocarbons only in gaseous form, and 'associated' gas produced in association with crude oil as well as methane recovered from coal mines (colliery gas) or from coal seams (coal seam gas). It does not include gases created by anaerobic digestion of biomass (e.g. municipal or sewage gas) nor gasworks gas.
3. Oil and petroleum products	
Crude oil	Crude oil is a mineral oil of natural origin comprising a mixture of hydrocarbons and associated impurities, such as sulphur. It exists in the liquid phase under normal surface temperature and pressure and its physical characteristics (density, viscosity, etc.) are highly variable. This category includes field or lease condensate recovered from associated and non-associated gas where it is commingled with the commercial crude oil stream.
NGL	NGL are liquid or liquefied hydrocarbons recovered from natural gas in separation facilities or gas processing plants. Natural gas liquids include ethane, propane, butane (normal and iso-), (iso) pentane and pentanes plus (sometimes referred to as natural gasoline or plant condensate).
Refinery feedstocks	A refinery feedstock is a processed oil destined for further processing (e.g. straight run fuel oil or vacuum gas oil) excluding blending. With further processing, it will be transformed into one or more components and/or finished products. This definition also covers returns from the petrochemical industry to the refining industry (e.g. pyrolysis gasoline, C4 fractions, gasoil and fuel oil fractions).
Additives/oxygenates	Additives are non-hydrocarbon compounds added to or blended with a product to modify fuel properties (octane, cetane, cold properties, etc.): – oxygenates, such as alcohols (methanol, ethanol), ethers (such as MTBE (methyl tertiary butyl ether), ETBE (ethyl tertiary butyl ether), TAME (tertiary amyl methyl ether)), – esters (e.g. rapeseed or dimethylester, etc.), – chemical compounds (such as TML, TEL and detergents). *Note:* quantities of additives/oxygenates (alcohols, ethers, esters and other chemical compounds) reported in this category should relate to the quantities destined for blending with fuels or for fuel use.
Refinery gas (not liquefied)	Refinery gas includes a mixture of non-condensible gases mainly consisting of hydrogen, methane, ethane and olefins obtained during distillation of crude oil or treatment of oil products (e.g. cracking) in refineries. This also includes gases which are returned from the petrochemical industry.
Ethane	A naturally gaseous straight-chain hydrocarbon (C_2H_6) extracted from natural gas and refinery gas streams.
Motor gasoline	Motor gasoline consists of a mixture of light hydrocarbons distilling between 35 ^{o}C and 215 ^{o}C. It is used as a fuel for land based spark ignition engines. Motor gasoline may include additives, oxygenates and octane enhancers, including lead compounds such as TEL and TML. Includes motor gasoline blending components (excluding additives/oxygenates),

Energy product	Definition
	e.g. alkylates, isomerate, reformate, cracked gasoline destined for use as finished motor gasoline.
Aviation gasoline	Motor spirit prepared especially for aviation piston engines, with an octane number suited to the engine, a freezing point of - 60 °C and a distillation range usually within the limits of 30 °C and 180 °C.
Gasoline type jet fuel	Distillate used for aviation turbine power units. It has the same distillation characteristics between 150 °C and 300 °C (generally not above 250 °C) and flash point as kerosene. In addition, it has particular specifications (such as freezing point) which are established by the International Air Transport Association (IATA). Includes kerosene blending components.
Other kerosene	Refined petroleum distillate used in sectors other than aircraft transport. It distils between 150 °C and 300 °C.
Diesel oil	Diesel oil is primarily a medium distillate distilling between 180 °C and 380 °C. Includes blending components. Several grades are available depending on uses.
Lubricants	Hydrocarbons produced from distillate by-product; they are mainly used to reduce friction between bearing surfaces. Includes all finished grades of lubricating oil, from spindle oil to cylinder oil, and those used in greases, motor oils and all grades of lubricating oil base stocks.
Bitumen	Solid, semi-solid or viscous hydrocarbon with a colloidal structure, being brown to black in colour, obtained as a residue in the distillation of crude oil, by vacuum distillation of oil residues from atmospheric distillation. Bitumen is often referred to as asphalt and is primarily used for construction of roads and for roofing material. Includes fluidised and cut back bitumen.
Fuel oil	All residual (heavy) fuel oils (including those obtained by blending). Kinematic viscosity is above 10 cSt at 80 °C. The flash point is always above 50 °C and density is always more than 0,90 kg/l.
Naphtha	Naphtha is a feedstock destined for either the petrochemical industry (e.g. ethylene manufacture or aromatics production) or for gasoline production by reforming or isomerisation within the refinery. Naphtha comprises material in the 30 °C and 210 °C distillation range or part of this range.
Petroleum coke	Black solid by-product, obtained mainly by cracking and carbonising petroleum derived feedstock, vacuum bottoms, tar and pitches in processes such as delayed coking or fluid coking. It consists mainly of carbon (90 to 95 %) and has a low ash content. It is used as a feedstock in coke ovens for the steel industry, for heating purposes, for electrode manufacture and for production of chemicals. The two most important qualities are ‘green coke’ and ‘calcinated coke’. Includes ‘catalyst coke’ deposited on the catalyst during refining processes; this coke is not recoverable and is usually burned as refinery fuel.
Other products	All products not specifically mentioned above, for example: tar and sulphur. Includes aromatics (e.g. BTX or benzene, toluene and xylene) and olefins (e.g. propylene) produced within refineries.
4. Renewable energy and anergy from waste	
Solid biomass	Covers organic, non-fossil material of biological origin which may be used as fuel for heat production or electricity generation. It comprises:
Of which: wood, wood wastes, other solid wastes	Purpose-grown energy crops (poplar, willow etc.), a multitude of woody materials generated by an industrial process (wood/paper industry in particular) or provided directly by forestry and agriculture (firewood, wood chips, wood pellets, bark, sawdust, shavings, chips, black liquor etc.) as well as wastes such as straw, rice husks, nut shells, poultry litter, crushed grape dregs etc. Combustion is the preferred technology for these solid wastes. The quantity of fuel used should be reported on a net calorific value basis.
Liquid biofuels	The quantities of liquid biofuels reported in this category should relate to the quantities of biofuel and not to the total volume of liquids into which the biofuels are blended. For the particular case of imports and exports of liquid biofuels, only trade of quantities that have not been blended with transport fuels is concerned (i.e. in their pure form).

Energy product	Definition
Biogas	A gas composed principally of methane and carbon dioxide produced by anaerobic digestion of biomass.
Hydro power	Potential and kinetic energy of water converted into electricity in hydroelectric plants. Pumped storage must be included. Production must be reported for plant sizes of < 1 MW, 1 to < 10 MW, ≥ 10 MW and from pumped storage.
Solar energy	Solar radiation exploited for hot water production and electricity generation. This energy production is the heat available to the heat transfer medium, i.e. the incident solar energy less the optical and collectors' losses. Passive solar energy for the direct heating, cooling and lighting of dwellings or other buildings is not included.
Wind	Kinetic energy of wind exploited for electricity generation in wind turbines.
5. Electricity and heat	
Electrical energy	It means electrical energy from all sources of production by type of producers, installations, fuels.
Thermal energy	Thermal energy destined for sale to third parties by type of producers, installations, fuels.

4. LIST OF AGGREGATED INDICATORS

Name of aggregated indicator	Definition
Primary energy production / national production	This category includes production from the exploitation of existing energy sources in nature (in subsoil assets, forests, water courses, etc.) that can be used as such or after a preliminary processing (sorting, washing, cleaning, etc.) that does not change the structure of assortment, but improves its quality for use as fuel or as feedstock for producing other combustible products or noncombustible. *Coal production* from underground and surface mines; recovered slurries, mixed minerals and other low-grade coal products, which cannot be classified according to type of coal. This includes coal recovered from waste piles and other waste receptacles; *Natural gas production*: dry marketable gas, obtained within national boundaries, including offshore production. Production is measured after removal of impurities and NGL extraction and of sulphur. Extraction losses and quantities reinserted, discharged to air or burned are not included in this item. Here are included quantities used in the natural gas industry, in the process of extraction of natural gas, into pipelines and in natural gas processing plants and natural gas obtained with crude oil; natural gas from fields producing hydrocarbons only in gaseous and methane produced in coal mines or extracted from coal layers, brought to the surface and consumed of collieries or transmitted by pipeline to consumers; *Crude oil production* (including liquids products from natural gas extraction); *Electricity production*: hydroelectric and wind energy production; is reported gross output (production measured at generator terminals), solar photovoltaic energy; *Heat production*: heat production obtained from nuclear reactors, geothermal energy, solar thermal energy; *Biomass production*: firewood, combustible products derived from activities other than energy production, such as wood processing cellulose and paper production, agriculture, etc; *Production of other fuels*: biogas, non-renewable industrial waste, renewable municipal waste and biofuels.
Import/export	Unless provisions contrary, imports "refers to the country of initial origin (the country in which the energy product was produced) for use in the country and,, exports" to the country of final consumption of energy product . Are considered as imported or exported quantities that have passed or not customs, who have passed the political boundaries of a country. For electric energy are considered as imported or exported quantities of electricity, quantities that have passed or not customs, who have passed the political boundaries of a country. If the amount of electric energy is transited through a country, it should be registered as both import and export. For petroleum products, this category includes quantities of crude oil and products imported or exported in accordance with processing agreements (i.e. refining for account). Crude oil and NGL should be registered as coming from the origin country; in the case of refinery feedstock's and final products should be taken into account by the last country of origin. This includes any gas liquids (i.e. LPG) extracted during the regasification of imported liquefied natural gas and imported or exported petroleum products directly by the petrochemical industry. Re-exports of oil imported for processing within bonded areas should be included as an export of product from the processing country to the country of final destination.

Name of aggregated indicator	Definition
Stock at 1 January/ Stock at 31 December	Stock at the beginning of the reference period include stocks of existing primary and transformed energy stock at producers, distributors and consumers and these left in custody to the economic agents. Stock at the end of the reference period include the quantities of the fuels motor fuels existing at producers, distributors and consumers at the end of the reference period, regardless of their source. Stocks represents all stocks on national territory, including stocks held by governments, by major consumers or of organizations dealing with stock possession, stocks from incoming ocean vessels, stocks held in bonded areas and stocks held for others in accordance or not with bilateral government agreement.
Stock variation	The difference between stocks of 1 January and those of 31 December.
Bunkering	Includes quantities of fuels delivered to marine ships and aircraft engaged in international voyages, regardless of their flag or nationality of the airline company. Are not included the quantities consumed by ships sailing in national waters. Quantities of fuels consumed by fishing vessels are included in consumption in agriculture.
The calculated gross domestic consumption	Total Resources + Import - Export - Bunkering ± stock variation
Total transformation Sector - inputs	Quantities of fuels used for primary or secondary energy transformation, for example: - coal in electric energy, coke oven gas in electric energy or used for the transformation in derived energy products (eg coking coal in coke); - natural gas in electric energy or used for the transformation in derived energy products (eg natural gas in methanol); Quantities of renewable energy and wastes used for the conversion of primary forms of energy to secondary forms (eg landfill gases to electric energy or used for the transformation to derived energy products (eg biogas used for blended natural gas); Quantities of oil entered in the refineries;
- in stations for producing thermoelectric energy	Are included total quantities of fuels consumed for producing electric energy whatever of type of the producing station, both in the public sector (which includes economic agents of whose main activity is the producing electricity regardless of their form of ownership) and to self-producers (comprising economic agents, whatever their form of ownership, of whose main occupation is other than energy production and electricity producing mainly for domestic needs, the surplus being sold to third parties). Self-producers represents electric station in mining, food industry, refineries, non-metal materials, metallurgy, chemistry, mechanical engineering of the railways and other industries.
- in stations for producing thermal energy	Are included total quantities of fuels consumed for producing thermal energy whatever of type of the producing station, in the public sector (which includes economic agents of whose main activity is the producing thermal energy regardless of their form of ownership) and for producing thermal energy by self-producers sold to third parties. Are not included quantities of fuels consumed in its own industrial activity for heated by direct combustion heaters and the heat consumed in own residential buildings, which are recorded on household consumption. Also not included own consumptions of the station, those being declared consumptions in energy sector. Consumptions for thermal energy produced in the means of transport are not summarized, being included in the consumption of transport.
- in briquetting installations	Includes quantities of coal and binder consumed for the production of charcoal briquettes. Excluded are quantities used for heating and for operation of equipment

Name of aggregated indicator	Definition
	that should not be registered here, but registered as consumption in the energy sector.
- in coke ovens	Includes quantities of coking coal consumed for the production of coke, semi-coke and of coke oven gas. Excluded are quantities used for heating and for operation of equipment that should not be registered here, but registered as consumption in the energy sector.
- in blast furnaces	Includes fuel quantities used in furnaces (coking coal and / or bituminous coal, with generic name as pulverized coal injection, metallurgical coke) for production of blast furnace gas in the process of reduction of the iron ore. These amounts are subtracted from consumption in metallurgy, to avoid double recordings. Excluded are quantities used for heating and for operation of equipment that should not be registered here, but registered as consumption in the energy sector.
- in oil refineries	Includes quantities of crude oil, gasoline and ethane from extraction scaffolds used for processing and obtaining derivative products (combustible and noncombustible products) namely: gasoline, petroleum, white spirit, diesel and aromatic extract, oil, mineral oil, petroleum coke, petroleum bitumen, paraffin waxes, greases, waxes, liquefied petroleum gas, refinery gases including propylene from refineries and other petroleum products. Are included processed oil quantities in the activity of "processing". Does not include returns from petrochemical and blanks. Excluded are quantities used for heating and for operation of equipment that should not be registered here, but registered as consumption in the energy sector.
- in other domains	Includes quantities of coal, firewood and wood waste consumed for producing generator gas and for producing charcoal.
Total energy sector - output from transformation inclusive:	Outputs from transformation represents energy production resulted from the transformation activity: products derived from coal, refined petroleum products, derived gases, thermoelectric energy and thermal energy. Productions included in this sector include own consumption of transformation installations.
- from stations for producing thermoelectric energy	The indicator includes gross thermoelectric energy production (measured at the generator terminals), inclusive that produced by mobile generator sets, regardless of the type of equipment manufacturing (condensing groups or heating groups), both in the public sector as well of the self-producers. To determine the net production, from gross production is subtracted own consumption of station.
- from stations for producing thermal energy	The indicator contains production of thermal energy achieved in stations whose main activity is producing thermal energy as well as thermal energy produced and sold by the self-producers. This includes thermal energy used by the auxiliary's installation of station which uses a hot fluid (space heating, liquid fuel heating etc.) and losses from the heat exchanges of the installation / network, as well as heat from chemical processes used as primary energy form, regardless of the type of producing station. This includes and the amount of thermal energy (hot steam) used for producing thermal energy. Not included thermal energy used for producing electric energy.
- from briquetting installations	Represents production of coal briquettes, regardless of the assortment of coal used
- from coke ovens	Represents fuel production resulting from the processing of coking of hard coal, namely: coke, semi coke, coke oven gas, coke oven pitch, etc.
- from furnaces	Represents production of blast furnace gas obtained by transforming coke in the process of reducing iron ore from blast furnaces;
- from oil refineries	Represents gross production of refined petroleum products.

Name of aggregated indicator	Definition
- from other domains	Includes production of other fuels categories other than those mentioned (production of gases of gasogen and of the charcoal).
Transfer	Represents quantities of products of whose classification has changed either because their specifications were changed, either because these were mixed together to form another product.. A negative value for one product should be compensated by one (or more) positive value for one or more products and vice versa, the total net effect should be zero.
Consumption in the energy sector (for the functioning of generating installations and ensuring basic activity)	This indicator includes quantities of energy carriers consumed by primary energy producers or converted for operation of their installations. Includes electric energy consumption of aggregates for producing electric and thermic energy, of domestic services (pumps, fans, coal mills, etc.), technological lighting and for various heating devices (relays, contactors), electric energy consumption in the transformers raising voltage in electric stations. Also, includes electric energy consumption of aggregates for producing electric energy, of internal services of station and for heating fuel depots. Not included thermic energy used for producing electric energy. Includes consumption of renewables and waste used by the energy industry to support the transformation activity. For example, renewables and wastes used for heating, lighting or operating pumps or of compressors. Are summarized quantities of energy products used as energy in refineries and quantities consumed as fuel in the oil extraction process and of natural gas and in installations of processing natural gas. Are not taken into account the quantities of fuels transformed into another energy form (which should be registered at the transformation sector) or those used to support the exploitation of the pipeline oil, gas and coal (to be reported in the Transport) and losses of the pipes (that should be reported in distribution losses). This sector also includes the production of chemical substances used in atomic fission and fusion and the products of these processes.
Extraction of superior and inferior coal	CAEM-2 code 05 - Extraction of superior and inferior coal; CAEM-2 code 0892 - Extraction and agglomeration of peat.
Extraction of crude petroleum, natural gas and services related to extraction	CAEM-2 code 06 - Extraction of crude petroleum, natural gas (excluding prospections); CAEM-2 code 0910 – Activities of related services of oil and natural gas extraction
Extraction of uranium and thorium ores	CAEM-2 code 0721 - Extraction of uranium and thorium ores
Manufacture of coke products and of products from crude oil processing	CAEM-2 code 19 - Manufacture of coke products and of products from crude oil processing
Production and supply of electric, thermic energy, gases, hot water and air conditioning	CAEM-2 code 35 - Production and supply of electric, thermic energy, gases, hot water and air conditioning
Losses	Are comprised: - at electrical energy: technological consumption in transport installations, transformation and distribution to the point of separation between suppliers and consumers. Technological consumption from the point of separation between suppliers and consumers and and to the receivers is comprised in technological consumption in analyzed branch (industry, construction, etc.). - at thermal energy: the amount of thermal energy from the spent steam and the condensate returned in steam boilers; thermal energy in the form of hot water not returned to the source of producing hot

Name of aggregated indicator	Definition
	water, exclusively hot water used in mixture exchangers. Also included quantities of thermal energy lost through the insulation of systems. - at fuels: quantities lost in transport, handling and storage at producers, distributors and consumers by: leaking into the atmosphere, at burning torch; leakages of transmission and distribution networks; leakages from reservoirs and other manipulations; degradation by infiltration: quantitative and qualitative losses of solid fuels in deposits.
Available for final consumption (calculated)	Available for final consumption = domestic consumption - inputs in transformation + outputs from transformation ± transfer - (energy sector consumption + losses) + final non-energy consumption.
Nonenergetic	Comprise quantities of energy carriers used for purposes other than those energetic, namely as: consumption of natural gas and petroleum products to obtain chemicals; quantities of natural gas used for injection into resource: crude oil for treatment drilling fluids; products used for lubrication, washing and as insulating materials.
Final energy consumption (gross consumption observed), total	Is determined by aggregating the quantities of energy carriers used by final consumers in economic activity carried out during the reference period. Comprise quantities of primary and transformed energy carriers used in consumer installations, after which no longer takes place any processing and energy transformation. However, in the case of thermal stations and of cogeneration stations of self-producers, are included here only quantities of fuels consumed for producing thermal energy used by them. Quantities of fuels consumed for producing thermal energy sold and for producing electric energy, should be registered in the relevant rubric form the transformation sector. Comprise consumption for lighting; heating and ventilation, water supply, intended for the production, exclusively those for administrative buildings which are classified under "Other branches of the economy." Distribution of final energy consumption is made according CAEM-2. as follows:
In industry, total (including construction)	It refers to all activities classified as industrial (including construction) exclusively the energy sector consumption.
from which: - mining industry	CAEM-2 code 081 - Extraction of stone, sand and clay; CAEM-2 code 089 - Other mining activities (excluding code 0892); CAEM-2 code 09 - Mining support service activities;
- metallurgical industry	CAEM-2 code 24 - Metallurgical industry
- chemical and petrochemical industry	CAEM-2 code 20 - Manufacture of chemicals and chemical products; CAEM-2 code 21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations;
- nonmetallic minerals	CAEM-2 code 23 - Manufacture of other products from non-metallic mineral
- transport equipment	CAEM-2 code 29 - Manufacture of motor vehicles, trailers and semi-trailers; CAEM-2 code 30 - Manufacture of other transport means
- Machine building industry	CAEM-2 code 25 - The industry of metallic constructions and of metal products, except machinery and equipment; CAEM-2 code 26 - Manufacture of computer, of electronic products and optimal; CAEM-2 code 27 - Manufacture of electrical equipment; CAEM-2 code 28 - Manufacture of machinery and instruments equipment n.c.a.; CAEM-2 code 33- Preparation, maintenance and installation of machinery and equipment

Name of aggregated indicator	Definition
- food, beverages, tobacco industry	CAEM-2 code 10 - Food industry; CAEM-2 code 11 - Manufacture of beverages; CAEM-2 code 12 -Manufacture of tobacco products;
- Pulp, Paper and printing activities	CAEM-2 code 17 - Manufacture of paper and paper products; CAEM-2 code 18 - Printing and reproduction on recorded media
- wood processing and furniture production	CAEM-2 code 16 - Wood processing, manufacture of wood and cork products, except furniture; manufacture of articles of straw and other plaiting materials
- Industry of textile and leather products	CAEM-2 code 13 - Manufacture of textile products; CAEM-2 code 14 – Manufacture of Clothing articles; CAEM-2 code 15 - Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- constructions	CAEM-2 code 41 - Construction of buildings; CAEM-2 code 42 - Civil constructions works; CAEM-2 code 43 - Special construction works
- Other industrial activities	CAEM-2 code 22 - Manufacture of rubber and plastic products CAEM-2 code 31 - Manufacture of furniture CAEM-2 code 32 - Other industrial activities n.c.a.
- transports	Comprises consumptions in transport activity (road, rail, air, sea and pipeline), inclusive internal transportation (for economic agents with main activity other than transport). Includes consumption of fuel used by the population for their own means of transport. Not included consumption of marine vessels which sailing in international waters, this is included in "marine bunkers". Consumption of fishing vessels is included in "Fishing and aquaculture". CAEM-2 code 49 - Land transport and transport via pipelines; CAEM-2 code 50 - Water transport; CAEM-2 code 51 - Air transport;
- residential sector (population)	Comprises : - to electric energy: quantity consumed for lighting and other household uses, inclusive for living spaces from the ownership and management of economic agents. - to thermal energy: quantity of thermal energy delivered to the population for heating and domestic hot water, both by the public sector as well as by self-producers. - to fuels: quantities effective delivered to population for direct flame consumption for heating and cooking and for producing thermal energy in micro stations of real estate. This also includes quantities of coal received by miners as allowances.
- Agriculture	It comprises energy consumption in registered in agriculture, forestry, logging and hunting economy and pisciculture and fishing. It also includes the energy consumption of fishing vessels. CAEM-2 code 01- Agriculture, hunting and related services CAEM-2 code 02 - Silviculture forest harvesting CAEM-2 code 03 - Fishing and aquaculture
- Other sectors of the economy	It comprises energy consumption reported by economic agents as consumed in other activities than those mentioned above, namely: CAEM-2 Section E - Water supply; sewerage, waste management and remediation activities CAEM-2 Section G - Wholesale and retail trade; repair of motor vehicles and motorcycles, CAEM-2 code 52 - Storage and support activities for transportation CAEM-2 code 53 - Postal and courier activities, CAEM-2 Section I - Accommodation and public alimentation activities, CAEM-2 Section J - Information and communication,

Name of aggregated indicator	Definition
	CAEM-2 Section K - Financial and insurance activities, CAEM-2 Section L - Real estate transactions, CAEM-2 Section M - Professional, scientific and technical activities, CAEM-2 Section N - Activities of administrative services and activities of support services. CAEM-2 Section 0 - Public administration and defense; compulsory social security, CAEM-2 Section P - Education , CAEM-2 Section Q - Health & Social Assistance, CAEM-2 Section R - Art, recreational and leisure activities, CAEM-2 Section S - Other service activities, CAEM-2 Section T - Activities of private households as an employer of domestic personnel; activities of private households for producing goods and services for personal consumption, CAEM-2 Section U - Activities of Extra-territorial organizations and bodies Also included is electricity used for street lighting, respectively for lighting of streets, squares, parks and public gardens, monuments and public buildings, road signs bright, exclusively firms and advertisements.
Statistical differences	Is calculated as the difference between "Available for final consumption" - Of which was subtracted non-energy consumption - and "final energy consumption" observed by statistical investigation. Statistical differences comprising changes in stocks unregistered statistically, energy consumption for military purposes (excluding those for industrial production, comprised in industrial activities) and the differences generated by the statistical investigation system: while energy producers are registered exhaustive, consumers are investigated based on a representative sample, being admitted a margin of error. Statistical differences may be positive or negative as observed consumption is lower or higher than the funds available in the reference period.

1.1. THE ENERGY BALANCE for 2015

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**655**	-	0	7	644	4	-
From other sources	**283**	-	-	-	-	283	-
Imports	**1766**	98	815	851	0	2	-
Exports	**16**	-	-	14	2	-	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**-2**	4	1	-15	8	-	-
GROSS CONSUMPTION	**2686**	**102**	**816**	**829**	**650**	**289**	**-**
TRANSFORMATION, INPUT	**415**	**2**	**365**	**23**	**21**	**4**	**-**
Electricity plants	**4**	-	-	0	-	4	-
Main activity producer combined heat and power (CHP) plants	**279**	-	279	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**31**	-	14	7	10	-	-
Main activity producer heat plants	**39**	-	39	-	-	-	-
Autoproducer heat plants	**44**	2	33	0	9	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**16**	-	-	16	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**331**	**-**	**-**	**11**	**-**	**81**	**239**
Electricity plants	**5**	-	-	-	-	5	-
Main activity producer combined heat and power (CHP) plants	**216**	-	-	-	-	73	143
Autoproducer combined heat and power (CHP) plants	**18**	-	-	-	-	3	15
Main activity producer heat plants	**43**	-	-	-	-	-	43
Autoproducer heat plants	**38**	-	-	-	-	-	38
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**11**	-	-	11	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**0**	-	-	-	0	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**18**	**-**	**-**	**-**	**-**	**16**	**2**
LOSSES	**129**	**0**	**58**	**3**	**0**	**33**	**35**

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**2455**	**100**	**393**	**814**	**629**	**317**	**202**
FINAL ENERGY CONSUMPTION	**2410**	**100**	**393**	**778**	**620**	**317**	**202**
INDUSTRY	**209**	**40**	**60**	**4**	**1**	**65**	**39**
Iron and steel	**0**	-	-	-	-	0	-
Chemical and petrochem.	**5**	-	1	-	-	4	-
Non-metallic minerals	**88**	39	35	-	-	14	0
Machinery	**4**	0	0	0	-	4	0
Transport equipment	**0**	-	-	-	0	0	-
Mining and quarrying	**2**	-	-	1	-	1	-
Food and tobacco	**94**	1	21	-	1	34	37
Paper, pulp and print	**1**	-	1	-	-	-	-
Wood and wood products	**1**	-	-	-	-	1	0
Construction	**4**	-	1	3	-	-	-
Textile and leather	**6**	-	1	-	-	3	2
Not elsewhere specified	**4**	-	-	-	-	4	-
TRANSPORT	**662**	**-**	**20**	**637**	**-**	**5**	**-**
Domestic aviation	**25**	-	-	25	-	-	-
Road	**621**	-	13	604	-	4	-
Rail	**6**	-	-	6	-	-	-
Pipeline transport	**8**	-	7	-	-	1	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**1539**	**60**	**313**	**137**	**619**	**247**	**163**
Residential	**1205**	42	226	66	609	144	118
Comm. and public services	**260**	17	85	5	9	99	45
Agriculture	**74**	1	2	66	1	4	-
NON-ENERGY USE	**45**	**-**	**-**	**36**	**9**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.2. THE ENERGY BALANCE for 2015

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**27482**	-	3	285	27001	193	-
From other sources	**11879**	-	-	-	-	11879	-
Imports	**74076**	4114	34146	35712	42	62	-
Exports	**726**	-	-	627	99	-	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**-59**	174	48	-602	321	-	-
GROSS CONSUMPTION	**112652**	**4288**	**34197**	**34768**	**27265**	**12134**	**-**
TRANSFORMATION, INPUT	**17380**	**70**	**15309**	**946**	**862**	**193**	**-**
Electricity plants	**214**	-	1	6	14	193	-
Main activity producer combined heat and power (CHP) plants	**11286**	-	11286	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**1236**	-	587	262	387	-	-
Main activity producer heat plants	**2040**	-	2040	-	-	-	-
Autoproducer heat plants	**1872**	70	1395	18	389	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**660**	-	-	660	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**72**	-	-	-	72	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**14122**	**-**	**-**	**483**	**13**	**3584**	**10042**
Electricity plants	**199**	-	-	-	-	199	-
Main activity producer combined heat and power (CHP) plants	**9039**	-	-	-	-	3046	5993
Autoproducer combined heat and power (CHP) plants	**789**	-	-	-	-	140	649
Main activity producer heat plants	**1805**	-	-	-	-	-	1805
Autoproducer heat plants	**1595**	-	-	-	-	-	1595
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**483**	-	-	483	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**13**	-	-	-	13	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**721**	**-**	**-**	**2**	**-**	**647**	**72**
LOSSES	**5531**	**2**	**2434**	**151**	**7**	**1437**	**1500**

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**103142**	**4216**	**16454**	**34152**	**26409**	**13441**	**8470**
FINAL ENERGY CONSUMPTION	**101231**	**4216**	**16454**	**32602**	**26048**	**13441**	**8470**
INDUSTRY	**9043**	**1705**	**2506**	**298**	**62**	**2782**	**1690**
Iron and steel	**8**	-	-	-	-	8	-
Chemical and petrochem.	**214**	-	28	6	4	161	15
Non-metallic minerals	**3715**	1648	1469	29	-	568	1
Machinery	**180**	1	6	2	-	170	1
Transport equipment	**3**	-	-	-	1	2	-
Mining and quarrying	**119**	-	-	61	-	58	-
Food and tobacco	**4014**	56	869	41	43	1427	1578
Paper, pulp and print	**108**	-	55	-	-	32	21
Wood and wood products	**54**	-	-	5	13	36	-
Construction	**201**	-	37	143	-	20	1
Textile and leather	**232**	-	32	2	1	129	68
Not elsewhere specified	**195**	-	10	9	-	171	5
TRANSPORT	**28133**	**-**	**873**	**27084**	**-**	**176**	**-**
Domestic aviation	**1008**	-	-	1008	-	-	-
Road	**26454**	-	576	25724	-	154	-
Rail	**258**	-	-	258	-	-	-
Pipeline transport	**319**	-	297	-	-	22	-
Domestic navigation	**28**	-	-	28	-	-	-
Non-specified	**66**	-	-	66	-	-	-
OTHER	**64055**	**2511**	**13075**	**5220**	**25986**	**10483**	**6780**
Residential	**50114**	1733	9442	2312	25574	6118	4935
Comm. and public services	**10952**	749	3544	234	383	4198	1844
Agriculture	**2989**	29	89	2674	29	167	1
NON-ENERGY USE	**1911**	**-**	-	1550	361	-	-
Statistical differences	**-**	-	-	-	-	-	-

1.3. THE ENERGY BALANCE for 2015

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**934**	-	0	10	918	6	-
From other sources	**405**	-	-	-	-	405	-
Imports	**2522**	140	1164	1216	-	2	-
Exports	**24**	-	-	21	3	-	-
International bunkers	**-**	-	-	-	-	-	-
Stock changes	**-5**	6	1	-23	11	-	-
GROSS CONSUMPTION	**3832**	**146**	**1165**	**1182**	**926**	**413**	**-**
TRANSFORMATION, INPUT	**590**	**2**	**522**	**31**	**29**	**6**	**-**
Electricity plants	**6**	-	-	0	-	6	-
Main activity producer combined heat and power (CHP) plants	**398**	-	398	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**43**	-	20	9	14	-	-
Main activity producer heat plants	**56**	-	56	-	-	-	-
Autoproducer heat plants	**63**	2	48	-	13	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**22**	-	-	22	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**474**	**-**	**-**	**16**	**1**	**115**	**342**
Electricity plants	**6**	-	-	-	-	6	-
Main activity producer combined heat and power (CHP) plants	**308**	-	-	-	-	104	204
Autoproducer combined heat and power (CHP) plants	**27**	-	-	-	-	5	22
Main activity producer heat plants	**62**	-	-	-	-	-	62
Autoproducer heat plants	**54**	-	-	-	-	-	54
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**16**	-	-	16	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**1**	-	-	-	1	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**24**	**-**	**-**	**-**	**-**	**22**	**2**
LOSSES	**188**	**-**	**83**	**5**	**0**	**49**	**51**

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**3504**	**144**	**560**	**1162**	**898**	**451**	**289**
FINAL ENERGY CONSUMPTION	**3441**	**144**	**560**	**1110**	**887**	**451**	**289**
INDUSTRY	**305**	**57**	**85**	**9**	**2**	**94**	**58**
Iron and steel	**0**	-	-	-	-	0	-
Chemical and petrochem.	**7**	-	1	-	-	5	1
Non-metallic minerals	**124**	55	50	-	-	19	-
Machinery	**6**	0	0	0	-	6	-
Transport equipment	**0**	-	-	-	0	-	-
Mining and quarrying	**4**	-	-	2	-	2	-
Food and tobacco	**138**	2	30	2	2	48	54
Paper, pulp and print	**4**	-	2	-	-	1	1
Wood and wood products	**1**	0	-	-	-	1	0
Construction	**7**	-	1	5	-	1	-
Textile and leather	**8**	-	1	-	-	5	2
Not elsewhere specified	**6**	-	-	-	-	6	-
TRANSPORT	**943**	**-**	**28**	**909**	**-**	**6**	**-**
Domestic aviation	**34**	-	-	34	-	-	-
Road	**888**	-	20	863	-	5	-
Rail	**9**	-	-	9	-	-	-
Pipeline transport	**9**	-	8	-	-	1	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**2**	-	-	2	-	-	-
OTHER	**2193**	**87**	**447**	**192**	**885**	**351**	**231**
Residential	**1722**	60	323	94	871	205	169
Comm. and public services	**368**	26	121	7	12	140	62
Agriculture	**103**	1	3	91	2	6	-
NON-ENERGY USE	**63**	**-**	**-**	**52**	**11**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.4. THE ENERGY BALANCE for 2016

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**709**	-	0	7	698	4	-
From other sources	**286**	-	-	-	-	286	-
Imports	**1818**	60	838	920	0	0	-
Exports	**15**	-	-	15	-	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**-2**	15	-1	-16	0	-	-
GROSS CONSUMPTION	**2796**	**75**	**837**	**896**	**698**	**290**	**-**
TRANSFORMATION, INPUT	**424**	**1**	**369**	**30**	**20**	**4**	**-**
Electricity plants	**4**	-	-	0	-	4	-
Main activity producer combined heat and power (CHP) plants	**279**	-	279	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**32**	-	12	11	9	-	-
Main activity producer heat plants	**44**	-	43	-	1	-	-
Autoproducer heat plants	**46**	1	35	1	9	-	-
Oil refineries	**0**	-	-	0	-	-	-
Petrochemical plants	**18**	-	-	18	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**1**	-	-	-	1	-	-
Not elsewhere specified - transformation	-	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**346**	**-**	**-**	**15**	**-**	**78**	**253**
Electricity plants	**4**	-	-	-	-	4	-
Main activity producer combined heat and power (CHP) plants	**217**	-	-	-	-	70	147
Autoproducer combined heat and power (CHP) plants	**22**	-	-	-	-	4	18
Main activity producer heat plants	**47**	-	-	-	-	-	47
Autoproducer heat plants	**41**	-	-	-	-	-	41
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**15**	-	-	15	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**0**	-	-	-	0	-	-
Not elsewhere specified — transformation	-	-	-	-	-	-	-
Energy sector	**19**	**-**	**-**	**-**	**-**	**16**	**3**
LOSSES	**128**	**0**	**50**	**4**	**0**	**37**	**37**

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**2571**	**74**	**418**	**877**	**678**	**311**	**213**
FINAL ENERGY CONSUMPTION	**2525**	**74**	**418**	**840**	**669**	**311**	**213**
INDUSTRY	**203**	**24**	**61**	**9**	**1**	**64**	**44**
Iron and steel	**0**	-	-	-	-	0	-
Chemical and petrochem.	**5**	-	1	-	-	4	-
Non-metallic minerals	**69**	22	33	3	-	11	0
Machinery	**4**	0	0	0	-	4	0
Transport equipment	**0**	-	-	-	0	0	-
Mining and quarrying	**2**	-	-	1	-	1	-
Food and tobacco	**103**	2	22	2	1	34	42
Paper, pulp and print	**1**	-	1	-	-	0	0
Wood and wood products	**2**	-	1	-	0	1	0
Construction	**5**	-	1	3	0	1	0
Textile and leather	**7**	-	1	-	0	4	2
Not elsewhere specified	**5**	-	1	-	0	4	-
TRANSPORT	**717**	**-**	**25**	**686**	**-**	**6**	**-**
Domestic aviation	**33**	-	-	33	-	-	-
Road	**661**	-	19	638	-	4	-
Rail	**13**	-	-	13	-	-	-
Pipeline transport	**8**	-	6	-	-	2	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**1605**	**50**	**332**	**145**	**668**	**241**	**169**
Residential	**1257**	31	236	69	658	140	123
Comm. and public services	**268**	18	94	4	9	97	46
Agriculture	**80**	1	2	72	1	4	0
NON-ENERGY USE	**46**	**-**	**-**	**37**	**9**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.5. THE ENERGY BALANCE for 2016

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**29584**	-	4	273	29149	158	-
From other sources	**11967**	-	-	-	-	11967	-
Imports	**76320**	2519	35159	38623	6	13	-
Exports	**634**	-	-	629	5	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**-75**	621	-58	-702	64	-	-
GROSS CONSUMPTION	**117162**	**3140**	**35105**	**37565**	**29214**	**12138**	**-**
TRANSFORMATION, INPUT	**17732**	**74**	**15480**	**1208**	**812**	**158**	**-**
Electricity plants	**168**	-	-	8	2	158	-
Main activity producer combined heat and power (CHP) plants	**11278**	5	11273	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**1222**	-	387	476	359	-	-
Main activity producer heat plants	**2276**	-	2254	-	22	-	-
Autoproducer heat plants	**2049**	69	1566	44	370	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**680**	-	-	680	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**59**	-	-	-	59	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**14495**	**-**	**-**	**607**	**16**	**3266**	**10606**
Electricity plants	**161**	-	-	-	-	161	-
Main activity producer combined heat and power (CHP) plants	**9134**	-	-	-	-	2954	6180
Autoproducer combined heat and power (CHP) plants	**887**	-	-	-	-	151	736
Main activity producer heat plants	**1981**	-	-	-	-	-	1981
Autoproducer heat plants	**1709**	-	-	-	-	-	1709
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**607**	-	-	607	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**16**	-	-	-	16	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**730**	**-**	**-**	**1**	**-**	**653**	**76**
LOSSES	**5405**	**7**	**2115**	**172**	**1**	**1543**	**1567**

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**107790**	**3059**	**17510**	**36791**	**28417**	**13050**	**8963**
FINAL ENERGY CONSUMPTION	**105941**	**3054**	**17510**	**35256**	**28108**	**13050**	**8963**
INDUSTRY	**8598**	**983**	**2510**	**476**	**38**	**2703**	**1888**
Iron and steel	**7**	-	-	-	-	7	-
Chemical and petrochem.	**221**	-	28	11	0	163	19
Non-metallic minerals	**2945**	916	1382	163	0	481	3
Machinery	**192**	2	17	3	0	166	4
Transport equipment	**12**	-	1	-	1	10	-
Mining and quarrying	**78**	-	-	33	-	45	-
Food and tobacco	**4277**	63	909	90	28	1426	1761
Paper, pulp and print	**108**	-	49	0	-	33	26
Wood and wood products	**55**	-	0	14	5	36	-
Construction	**187**	-	18	143	2	23	1
Textile and leather	**243**	1	33	3	1	137	68
Not elsewhere specified	**273**	1	73	16	1	176	6
TRANSPORT	**29991**	**-**	**1067**	**28699**	**-**	**225**	**-**
Domestic aviation	**1410**	-	-	1410	-	-	-
Road	**27640**	-	810	26678	-	152	-
Rail	**542**	-	-	542	-	-	-
Pipeline transport	**330**	-	257	-	-	73	-
Domestic navigation	**21**	-	-	21	-	-	-
Non-specified	**48**	-	-	48	-	-	-
OTHER	**67352**	**2071**	**13933**	**6081**	**28070**	**10122**	**7075**
Residential	**52724**	1282	9899	2912	27597	5887	5147
Comm. and public services	**11250**	761	3948	126	425	4064	1926
Agriculture	**3378**	28	86	3043	48	171	2
NON-ENERGY USE	**1849**	**5**	**-**	**1535**	**309**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.6. THE ENERGY BALANCE for 2016

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**1010**	-	0	9	996	5	-
From other sources	**408**	-	-	-	-	408	-
Imports	**2597**	85	1198	1314	0	0	-
Exports	**22**	-	-	22	0	0	-
International bunkers	**-**	-	-	-	-	-	-
Stock changes	**-4**	22	-2	-25	1	-	-
GROSS CONSUMPTION	**3989**	**107**	**1196**	**1276**	**997**	**413**	**-**
TRANSFORMATION, INPUT	**604**	**2**	**528**	**41**	**28**	**5**	**-**
Electricity plants	**5**	-	-	0	0	5	-
Main activity producer combined heat and power (CHP) plants	**399**	-	399	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**45**	-	17	16	12	-	-
Main activity producer heat plants	**63**	-	62	-	1	-	-
Autoproducer heat plants	**66**	2	50	1	13	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**26**	-	-	26	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**495**	**-**	**-**	**22**	**1**	**111**	**361**
Electricity plants	**5**	-	-	-	-	5	-
Main activity producer combined heat and power (CHP) plants	**312**	-	-	-	-	101	211
Autoproducer combined heat and power (CHP) plants	**30**	-	-	-	-	5	25
Main activity producer heat plants	**67**	-	-	-	-	-	67
Autoproducer heat plants	**58**	-	-	-	-	-	58
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**22**	-	-	22	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**1**	-	-	-	1	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**25**	**-**	**-**	**-**	**-**	**22**	**3**
LOSSES	**182**	**-**	**72**	**4**	**0**	**53**	**53**

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**3673**	**105**	**596**	**1253**	**970**	**444**	**305**
FINAL ENERGY CONSUMPTION	**3608**	**105**	**596**	**1201**	**957**	**444**	**305**
INDUSTRY	**290**	**35**	**85**	**14**	**1**	**92**	**63**
Iron and steel	**0**	-	-	-	-	0	-
Chemical and petrochem.	**6**	-	1	-	-	5	0
Non-metallic minerals	**101**	33	47	5	-	16	-
Machinery	**6**	0	0	0	-	6	-
Transport equipment	**0**	-	-	-	0	-	-
Mining and quarrying	**4**	-	-	2	-	2	-
Food and tobacco	**146**	2	31	3	1	49	60
Paper, pulp and print	**4**	-	2	-	-	1	1
Wood and wood products	**1**	0	-	-	-	1	0
Construction	**6**	-	1	4	-	1	-
Textile and leather	**8**	-	1	-	-	5	2
Not elsewhere specified	**8**	-	2	-	-	6	-
TRANSPORT	**1023**	**-**	**36**	**980**	**-**	**7**	**-**
Domestic aviation	**48**	-	-	48	-	-	-
Road	**942**	-	27	910	-	5	-
Rail	**19**	-	-	19	-	-	-
Pipeline transport	**11**	-	9	-	-	2	-
Domestic navigation	**2**	-	-	2	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**2295**	**70**	**475**	**207**	**956**	**345**	**242**
Residential	**1797**	44	337	99	940	201	176
Comm. and public services	**384**	25	135	5	15	138	66
Agriculture	**114**	1	3	103	1	6	-
NON-ENERGY USE	**65**	**-**	**-**	**52**	**13**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.7. THE ENERGY BALANCE for 2017

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**770**	-	0	5	760	5	-
From other sources	**195**	-	-	-	-	195	-
Imports	**2012**	120	835	958	2	97	-
Exports	**34**	0	-	34	0	0	-
International bunkers	**-**	-	-	-	-	-	-
Stock changes	**4**	15	-1	-8	-2	-	-
GROSS CONSUMPTION	**2939**	**105**	**836**	**937**	**764**	**297**	**-**
TRANSFORMATION, INPUT	**411**	**2**	**360**	**24**	**20**	**5**	**-**
Electricity plants	**7**	-	-	-	2	5	-
Main activity producer combined heat and power (CHP) plants	**260**	-	260	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**29**	-	15	9	5	-	-
Main activity producer heat plants	**50**	0	49	-	1	-	-
Autoproducer heat plants	**49**	2	36	1	10	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**14**	-	-	14	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**336**	**-**	**-**	**14**	**0**	**77**	**245**
Electricity plants	**5**	-	-	-	-	5	-
Main activity producer combined heat and power (CHP) plants	**213**	-	-	-	-	68	145
Autoproducer combined heat and power (CHP) plants	**24**	-	-	-	-	4	20
Main activity producer heat plants	**42**	-	-	-	-	-	42
Autoproducer heat plants	**38**	-	-	-	-	-	38
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**14**	-	-	14	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**0**	-	-	-	0	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**17**	**-**	**-**	**-**	**-**	**15**	**2**
LOSSES	**128**	**0**	**49**	**2**	**0**	**37**	**40**

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**2719**	**103**	**427**	**925**	**744**	**317**	**203**
FINAL ENERGY CONSUMPTION	**2671**	**102**	**427**	**889**	**733**	**317**	**203**
INDUSTRY	**218**	**30**	**59**	**18**	**0**	**65**	**46**
Iron and steel	**0**	-	0	-	-	0	-
Chemical and petrochem.	**6**	-	1	-	-	4	1
Non-metallic minerals	**83**	29	31	12	0	11	0
Machinery	**4**	-	-	-	-	4	-
Transport equipment	**-**	-	-	-	-	-	-
Mining and quarrying	**2**	-	-	1	-	1	-
Food and tobacco	**103**	1	24	1	-	34	43
Paper, pulp and print	**2**	-	1	-	-	1	-
Wood and wood products	**1**	-	0	-	0	1	-
Construction	**6**	-	1	4	0	1	0
Textile and leather	**7**	-	0	-	-	5	2
Not elsewhere specified	**4**	-	1	-	-	3	-
TRANSPORT	**734**	**-**	**24**	**703**	**-**	**7**	**-**
Domestic aviation	**47**	-	-	47	-	-	-
Road	**665**	-	17	644	-	4	-
Rail	**10**	-	-	10	-	-	-
Pipeline transport	**10**	-	7	-	-	3	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**1719**	**72**	**344**	**168**	**733**	**245**	**157**
Residential	**1346**	54	250	66	720	141	115
Comm. and public services	**266**	17	92	3	12	100	42
Agriculture	**107**	1	2	99	1	4	0
NON-ENERGY USE	**48**	**1**	**-**	**36**	**11**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.8. THE ENERGY BALANCE for 2017

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**32315**	-	4	222	31885	204	-
From other sources	**8208**	-	-	-	-	8208	-
Imports	**84351**	5017	35006	40157	85	4086	-
Exports	**1403**	1	-	1401	1	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**236**	625	-52	-315	-22	-	-
GROSS CONSUMPTION	**123235**	**4391**	**35062**	**39293**	**31991**	**12498**	**-**
TRANSFORMATION, INPUT	**17165**	**74**	**15039**	**1117**	**731**	**204**	-
Electricity plants	**299**	-	-	11	84	204	-
Main activity producer combined heat and power (CHP) plants	**10883**	-	10883	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**1238**	-	628	412	198	-	-
Main activity producer heat plants	**2042**	5	2014	-	23	-	-
Autoproducer heat plants	**1975**	69	1514	27	365	-	-
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**667**	-	-	667	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**61**	-	-	-	61	-	-
Not elsewhere specified - transformation	-	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**14130**	**-**	**-**	**635**	**14**	**3230**	**10251**
Electricity plants	**229**	-	-	-	-	229	-
Main activity producer combined heat and power (CHP) plants	**8904**	-	-	-	-	2831	6073
Autoproducer combined heat and power (CHP) plants	**990**	-	-	-	-	170	820
Main activity producer heat plants	**1750**	-	-	-	-	-	1750
Autoproducer heat plants	**1608**	-	-	-	-	-	1608
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**635**	-	-	635	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**14**	-	-	-	14	-	-
Not elsewhere specified — transformation	-	-	-	-	-	-	-
Energy sector	**709**	-	**6**	-	-	**634**	**69**
LOSSES	**5403**	**12**	**2058**	**126**	**2**	**1546**	**1659**

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**114088**	**4305**	**17959**	**38685**	**31272**	**13344**	**8523**
FINAL ENERGY CONSUMPTION	**111962**	**4287**	**17959**	**37097**	**30752**	**13344**	**8523**
INDUSTRY	**9243**	**1212**	**2513**	**768**	**43**	**2749**	**1958**
Iron and steel	**6**	-	0	-	-	6	-
Chemical and petrochem.	**247**	-	29	-	2	161	55
Non-metallic minerals	**3446**	1161	1318	488	1	478	0
Machinery	**187**	2	10	3	-	168	4
Transport equipment	**13**	-	2	-	1	10	-
Mining and quarrying	**91**	-	-	39	-	52	-
Food and tobacco	**4385**	49	1021	49	33	1437	1796
Paper, pulp and print	**99**	-	41	-	-	35	23
Wood and wood products	**44**	-	0	5	3	36	-
Construction	**231**	-	24	174	-	32	1
Textile and leather	**305**	-	40	3	1	187	74
Not elsewhere specified	**189**	-	28	7	2	147	5
TRANSPORT	**30779**	-	**1052**	**29430**	**0**	**297**	-
Domestic aviation	**1999**	-	-	1999	-	-	-
Road	**27830**	-	738	26936	-	156	-
Rail	**437**	-	-	437	-	-	-
Pipeline transport	**455**	-	314	-	-	141	-
Domestic navigation	**20**	-	-	20	-	-	-
Non-specified	**38**	-	-	38	0	-	-
OTHER	**71940**	**3075**	**14394**	**6899**	**30709**	**10298**	**6565**
Residential	**56254**	2254	10476	2642	30165	5895	4822
Comm. and public services	**11165**	773	3830	98	495	4227	1742
Agriculture	**4521**	48	88	4159	49	176	1
NON-ENERGY USE	**2126**	**18**	-	**1588**	**520**	-	-
Statistical differences	-	-	-	-	-	-	-

1.9. THE ENERGY BALANCE for 2017

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**1100**	-	0	7	1086	7	-
From other sources	**279**	-	-	-	-	279	-
Imports	**2874**	171	1193	1368	3	139	-
Exports	**48**	0	-	48	0	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**10**	22	-2	-9	-1	-	-
GROSS CONSUMPTION	**4195**	**149**	**1195**	**1336**	**1090**	**425**	**-**
TRANSFORMATION, INPUT	**584**	**2**	**513**	**36**	**26**	**7**	-
Electricity plants	**10**	-	-	-	3	7	-
Main activity producer combined heat and power (CHP) plants	**371**	-	371	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**42**	-	21	14	7	-	-
Main activity producer heat plants	**70**	0	69	-	1	-	-
Autoproducer heat plants	**68**	2	52	1	13	-	-
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**21**	-	-	21	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	-	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**481**	-	-	**21**	-	**110**	**350**
Electricity plants	**8**	-	-	-	-	8	-
Main activity producer combined heat and power (CHP) plants	**303**	-	-	-	-	96	207
Autoproducer combined heat and power (CHP) plants	**34**	-	-	-	-	6	28
Main activity producer heat plants	**60**	-	-	-	-	-	60
Autoproducer heat plants	**55**	-	-	-	-	-	55
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**21**	-	-	21	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-	-	-
Not elsewhere specified — transformation	-	-	-	-	-	-	-
Energy sector	**25**	-	**0**	-	-	**22**	**3**
LOSSES	**185**	**0**	**70**	**5**	**0**	**53**	**57**

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**3882**	**147**	**612**	**1316**	**1064**	**453**	**290**
FINAL ENERGY CONSUMPTION	**3812**	**146**	**612**	**1263**	**1048**	**453**	**290**
INDUSTRY	**308**	**42**	**85**	**22**	**1**	**92**	**66**
Iron and steel	**0**	-	0	-	-	0	-
Chemical and petrochem.	**8**	-	1	-	0	5	2
Non-metallic minerals	**117**	40	45	16	0	16	0
Machinery	**5**	0	0	0	-	5	0
Transport equipment	**0**	-	0	-	0	0	-
Mining and quarrying	**3**	-	-	1	-	2	-
Food and tobacco	**149**	2	35	1	1	49	61
Paper, pulp and print	**3**	-	1	-	-	1	1
Wood and wood products	**1**	-	0	0	0	1	-
Construction	**6**	-	1	4	-	1	0
Textile and leather	**10**	-	1	0	0	7	2
Not elsewhere specified	**6**	-	1	0	0	5	0
TRANSPORT	**1050**	-	**36**	**1004**	**0**	**10**	-
Domestic aviation	**67**	-	-	67	-	-	-
Road	**950**	-	25	920	-	5	-
Rail	**15**	-	-	15	-	-	-
Pipeline transport	**16**	-	11	-	-	5	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**1**	-	-	1	0	-	-
OTHER	**2454**	**104**	**491**	**237**	**1047**	**351**	**224**
Residential	**1916**	75	357	91	1028	201	164
Comm. and public services	**384**	27	131	4	18	144	60
Agriculture	**154**	2	3	142	1	6	0
NON-ENERGY USE	**70**	**1**	-	**53**	**16**	-	-
Statistical differences	-	-	-	-	-	-	-

1.10. THE ENERGY BALANCE for 2018

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**798**	-	0	5	787	6	-
From other sources	**219**	-	-	-	-	219	-
Imports	**2109**	85	913	1026	3	82	-
Exports	**27**	-	-	27	-	0	-
International bunkers	**-**	-	-	-	-	-	-
Stock changes	**12**	5	2	2	3	-	-
GROSS CONSUMPTION	**3087**	**80**	**911**	**1002**	**787**	**307**	**-**
TRANSFORMATION, INPUT	**430**	**1**	**381**	**19**	**23**	**6**	**-**
Electricity plants	**10**	-	-	0	4	6	-
Main activity producer combined heat and power (CHP) plants	**285**	-	285	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**28**	-	18	6	4	-	-
Main activity producer heat plants	**41**	0	40	-	1	-	-
Autoproducer heat plants	**53**	1	38	1	13	-	-
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**12**	-	-	12	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**1**	-	-	-	1	-	-
Not elsewhere specified - transformation	**-**	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**345**	**-**	**-**	**8**	**0**	**82**	**255**
Electricity plants	**7**	-	-	-	-	7	-
Main activity producer combined heat and power (CHP) plants	**224**	-	-	-	-	71	153
Autoproducer combined heat and power (CHP) plants	**21**	-	-	-	-	4	17
Main activity producer heat plants	**43**	-	-	-	-	-	43
Autoproducer heat plants	**42**	-	-	-	-	-	42
Oil refineries	**-**	-	-	-	-	-	-
Petrochemical plants	**8**	-	-	8	-	-	-
Liquefaction plants	**-**	-	-	-	-	-	-
Charcoal production plants	**0**	-	-	-	0	-	-
Not elsewhere specified — transformation	**-**	-	-	-	-	-	-
Energy sector	**16**	**-**	0	0	**-**	**14**	**2**
LOSSES	**124**	**0**	**44**	**3**	**0**	**38**	**39**

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**2862**	**79**	**486**	**988**	**764**	**331**	**214**
FINAL ENERGY CONSUMPTION	**2786**	**79**	**486**	**925**	**751**	**331**	**214**
INDUSTRY	**251**	**24**	**76**	**37**	**1**	**67**	**46**
Iron and steel	**0**	0	0	0	-	0	-
Chemical and petrochem.	**6**	-	1	0	0	4	1
Non-metallic minerals	**102**	23	42	25	0	12	0
Machinery	**5**	0	1	0	-	4	0
Transport equipment	**1**	-	0	-	0	1	-
Mining and quarrying	**5**	-	-	4	-	1	-
Food and tobacco	**107**	1	28	1	1	33	43
Paper, pulp and print	**2**	-	1	-	0	1	-
Wood and wood products	**1**	-	0	0	0	1	0
Construction	**9**	-	1	7	0	1	-
Textile and leather	**8**	-	1	0	0	5	2
Not elsewhere specified	**5**	-	1	0	0	4	-
TRANSPORT	**758**	**-**	**25**	**727**	**-**	**6**	**-**
Domestic aviation	**55**	-	-	55	-	-	-
Road	**688**	-	19	665	-	4	-
Rail	**6**	-	-	6	-	-	-
Pipeline transport	**8**	-	6	-	-	2	-
Domestic navigation	**0**	-	-	0	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**1777**	**55**	**385**	**161**	**750**	**258**	**168**
Residential	**1385**	36	286	62	737	142	122
Comm. and public services	**283**	18	96	1	12	110	46
Agriculture	**109**	1	3	98	1	6	0
NON-ENERGY USE	**76**	**0**	**-**	**63**	**13**	**-**	**-**
Statistical differences	**-**	-	-	-	-	-	-

1.11. THE ENERGY BALANCE for 2018

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**33409**	-	4	218	32934	253	-
From other sources	**9166**	-	-	-	-	9166	-
Imports	**88433**	3579	38250	43074	86	3444	-
Exports	**1161**	-	-	1161	-	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**453**	242	97	7	107	-	-
GROSS CONSUMPTION	**129394**	**3337**	**38157**	**42124**	**32913**	**12863**	**-**
TRANSFORMATION, INPUT	**18009**	**72**	**15930**	**836**	**918**	**253**	-
Electricity plants	**411**	-	-	8	150	253	-
Main activity producer combined heat and power (CHP) plants	**11949**	-	11949	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**1179**	-	743	273	163	-	-
Main activity producer heat plants	**1709**	3	1674	-	32	-	-
Autoproducer heat plants	**2187**	69	1564	32	522	-	-
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**523**	-	-	523	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**51**	-	-	-	51	-	-
Not elsewhere specified - transformation	-	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**14464**	**-**	**-**	**354**	**12**	**3440**	**10658**
Electricity plants	**293**	-	-	-	-	293	-
Main activity producer combined heat and power (CHP) plants	**9384**	-	-	-	-	2980	6404
Autoproducer combined heat and power (CHP) plants	**869**	-	-	-	-	167	702
Main activity producer heat plants	**1808**	-	-	-	-	-	1808
Autoproducer heat plants	**1744**	-	-	-	-	-	1744
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**354**	-	-	354	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**12**	-	-	-	12	-	-
Not elsewhere specified — transformation	-	-	-	-	-	-	-
Energy sector	**691**	-	**2**	**1**	-	**618**	**70**
LOSSES	**5214**	**6**	**1861**	**131**	**1**	**1590**	**1625**

TeraJoule

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**119944**	**3259**	**20364**	**41510**	**32006**	**13842**	**8963**
FINAL ENERGY CONSUMPTION	**116663**	**3257**	**20364**	**38782**	**31455**	**13842**	**8963**
INDUSTRY	**10576**	**990**	**3199**	**1568**	**66**	**2780**	**1973**
Iron and steel	**8**	0	0	0	-	8	-
Chemical and petrochem.	**237**	-	30	1	3	150	53
Non-metallic minerals	**4292**	929	1777	1077	1	508	0
Machinery	**216**	1	25	3	-	176	11
Transport equipment	**36**	-	7	-	1	28	-
Mining and quarrying	**211**	-	-	156	-	55	-
Food and tobacco	**4520**	60	1186	44	49	1371	1810
Paper, pulp and print	**124**	-	51	-	4	48	21
Wood and wood products	**41**	-	0	5	5	31	0
Construction	**355**	-	38	276	-	41	-
Textile and leather	**306**	-	50	-	1	182	73
Not elsewhere specified	**230**	-	35	6	2	182	5
TRANSPORT	**31722**	-	**1038**	**30427**	-	**257**	-
Domestic aviation	**2324**	-	-	2324	-	-	-
Road	**28733**	-	762	27806	-	165	-
Rail	**236**	-	-	236	-	-	-
Pipeline transport	**368**	-	276	-	-	92	-
Domestic navigation	**18**	-	-	18	-	-	-
Non-specified	**43**	-	-	43	-	-	-
OTHER	**74365**	**2267**	**16127**	**6787**	**31389**	**10805**	**6990**
Residential	**57953**	1474	12004	2610	30827	5916	5122
Comm. and public services	**11833**	753	4001	48	510	4654	1867
Agriculture	**4579**	40	122	4129	52	235	1
NON-ENERGY USE	**3281**	**2**	-	**2728**	**551**	-	-
Statistical differences	-	-	-	-	-	-	-

1.12. THE ENERGY BALANCE for 2018

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
Primary Production	**1137**	-	0	7	1122	8	-
From other sources	**312**	-	-	-	-	312	-
Imports	**3013**	121	1303	1469	3	117	-
Exports	**40**	-	-	40	-	0	-
International bunkers	-	-	-	-	-	-	-
Stock changes	**12**	6	3	-1	4	-	-
GROSS CONSUMPTION	**4410**	**115**	**1300**	**1437**	**1121**	**437**	**-**
TRANSFORMATION, INPUT	**613**	**2**	**543**	**28**	**32**	**8**	-
Electricity plants	**13**	-	-	0	5	8	-
Main activity producer combined heat and power (CHP) plants	**407**	-	407	-	-	-	-
Autoproducer combined heat and power (CHP) plants	**40**	-	25	9	6	-	-
Main activity producer heat plants	**58**	0	57	-	1	-	-
Autoproducer heat plants	**75**	2	54	1	18	-	-
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**18**	-	-	18	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	**2**	-	-	-	2	-	-
Not elsewhere specified - transformation	-	-	-	-	-	-	-
TRANSFORMATION, OUTPUT	**493**	-	-	**12**	-	**118**	**363**
Electricity plants	**10**	-	-	-	-	10	-
Main activity producer combined heat and power (CHP) plants	**320**	-	-	-	-	102	218
Autoproducer combined heat and power (CHP) plants	**30**	-	-	-	-	6	24
Main activity producer heat plants	**62**	-	-	-	-	-	62
Autoproducer heat plants	**59**	-	-	-	-	-	59
Oil refineries	-	-	-	-	-	-	-
Petrochemical plants	**12**	-	-	12	-	-	-
Liquefaction plants	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-	-	-
Not elsewhere specified — transformation	-	-	-	-	-	-	-
Energy sector	**23**	-	**0**	-	-	**21**	**2**
LOSSES	**177**	**-**	**63**	**5**	**-**	**54**	**55**

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	**Total products**	Coal	Natural gas	Oil products	Biofuels and waste	Electricity	Heat
FINAL CONSUMPTION	**4090**	**113**	**694**	**1416**	**1089**	**472**	**306**
FINAL ENERGY CONSUMPTION	**3981**	**113**	**694**	**1325**	**1071**	**472**	**306**
INDUSTRY	**357**	**33**	**109**	**53**	**1**	**96**	**65**
Iron and steel	**0**	-	0	0	0	0	-
Chemical and petrochem.	**8**	-	1	-	-	6	1
Non-metallic minerals	**146**	31	61	37	0	17	0
Machinery	**7**	-	1	0	-	6	-
Transport equipment	**1**	-	-	-	-	1	-
Mining and quarrying	**7**	-	-	5	-	2	-
Food and tobacco	**153**	2	40	2	1	47	61
Paper, pulp and print	**5**	-	2	-	-	2	1
Wood and wood products	**1**	-	0	0	0	1	0
Construction	**11**	-	1	9	0	1	-
Textile and leather	**11**	-	2	-	-	7	2
Not elsewhere specified	**7**	-	1	-	-	6	-
TRANSPORT	**1083**	-	**35**	**1039**	**-**	**9**	-
Domestic aviation	**80**	-	-	80	-	-	-
Road	**981**	-	26	949	-	6	-
Rail	**8**	-	-	8	-	-	-
Pipeline transport	**12**	-	9	-	-	3	-
Domestic navigation	**1**	-	-	1	-	-	-
Non-specified	**1**	-	-	1	-	-	-
OTHER	**2541**	**80**	**550**	**233**	**1070**	**367**	**241**
Residential	**1979**	53	409	89	1051	202	175
Comm. and public services	**406**	26	137	2	18	157	66
Agriculture	**156**	1	4	142	1	8	0
NON-ENERGY USE	**109**	**0**	-	**91**	**18**	-	-
Statistical differences	-	-	-	-	-	-	-

2. THE ENERGY BALANCE, TOTAL PRODUCTS

2.1. THE ENERGY BALANCE for 2015-2018

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
Primary Production	655	709	770	798
From other sources	283	286	195	219
Imports	1766	1818	2012	2109
Exports	16	15	34	27
International bunkers	-	-	-	-
Stock changes	-2	-2	4	12
GROSS CONSUMPTION	**2686**	**2796**	**2939**	**3087**
TRANSFORMATION, INPUT	**415**	**424**	**411**	**430**
Electricity plants	4	4	7	10
Main activity producer combined heat and power (CHP) plants	279	279	260	285
Autoproducer combined heat and power (CHP) plants	31	32	29	28
Main activity producer heat plants	39	44	50	41
Autoproducer heat plants	44	46	49	53
Oil refineries	-	0	-	-
Petrochemical plants	16	18	14	12
Liquefaction plants	-	-	-	-
Charcoal production plants	2	1	2	1
Not elsewhere specified - transformation	-	-	-	-
TRANSFORMATION, OUTPUT	**331**	**346**	**336**	**345**
Electricity plants	5	4	5	7
Main activity producer combined heat and power (CHP) plants	216	217	213	224
Autoproducer combined heat and power (CHP) plants	18	22	24	21
Main activity producer heat plants	43	47	42	43
Autoproducer heat plants	38	41	38	42
Oil refineries	-	-	-	-
Petrochemical plants	11	15	14	8
Liquefaction plants	-	-	-	-
Charcoal production plants	0	0	0	0
Not elsewhere specified — transformation	-	-	-	-
Energy sector	**18**	**19**	**17**	**16**
LOSSES	**129**	**128**	**128**	**124**

thousands of tonnes of oil equivalent

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
FINAL CONSUMPTION	**2455**	**2571**	**2719**	**2862**
FINAL ENERGY CONSUMPTION	**2410**	**2525**	**2671**	**2786**
INDUSTRY	**209**	**203**	**218**	**251**
Iron and steel	0	0	0	0
Chemical and petrochem.	5	5	6	6
Non-metallic minerals	88	69	83	102
Machinery	4	4	4	5
Transport equipment	0	0	-	1
Mining and quarrying	2	2	2	5
Food and tobacco	94	103	103	107
Paper, pulp and print	1	1	2	2
Wood and wood products	1	2	1	1
Construction	4	5	6	9
Textile and leather	6	7	7	8
Not elsewhere specified	4	5	4	5
TRANSPORT	**662**	**717**	**734**	**758**
Domestic aviation	25	33	47	55
Road	621	661	665	688
Rail	6	13	10	6
Pipeline transport	8	8	10	8
Domestic navigation	1	1	1	0
Non-specified	1	1	1	1
OTHER	**1539**	**1605**	**1719**	**1777**
Residential	1205	1257	1346	1385
Comm. and public services	260	268	266	283
Agriculture	74	80	107	109
NON-ENERGY USE	**45**	**46**	**48**	**76**
Statistical differences	**-**	**-**	**-**	**-**

2.2. THE ENERGY BALANCE for 2015-2018

TeraJoule

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
Primary Production	27482	29584	32315	33409
From other sources	11879	11967	8208	9166
Imports	74076	76320	84351	88433
Exports	726	634	1403	1161
International bunkers	-	-	-	-
Stock changes	-59	-75	236	453
GROSS CONSUMPTION	**112652**	**117162**	**123235**	**129394**
TRANSFORMATION, INPUT	**17380**	**17732**	**17165**	**18009**
Electricity plants	214	168	299	411
Main activity producer combined heat and power (CHP) plants	11286	11278	10883	11949
Autoproducer combined heat and power (CHP) plants	1236	1222	1238	1179
Main activity producer heat plants	2040	2276	2042	1709
Autoproducer heat plants	1872	2049	1975	2187
Oil refineries	-	-	-	-
Petrochemical plants	660	680	667	523
Liquefaction plants	-	-	-	-
Charcoal production plants	72	59	61	51
Not elsewhere specified - transformation	-	-	-	-
TRANSFORMATION, OUTPUT	**14122**	**14495**	**14130**	**14464**
Electricity plants	199	161	229	293
Main activity producer combined heat and power (CHP) plants	9039	9134	8904	9384
Autoproducer combined heat and power (CHP) plants	789	887	990	869
Main activity producer heat plants	1805	1981	1750	1808
Autoproducer heat plants	1595	1709	1608	1744
Oil refineries	-	-	-	-
Petrochemical plants	483	607	635	354
Liquefaction plants	-	-	-	-
Charcoal production plants	13	16	14	12
Not elsewhere specified — transformation	-	-	-	-
Energy sector	**721**	**730**	**709**	**691**
LOSSES	**5531**	**5405**	**5403**	**5214**

TeraJoule

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
FINAL CONSUMPTION	**103142**	**107790**	**114088**	**119944**
FINAL ENERGY CONSUMPTION	**101231**	**105941**	**111962**	**116663**
INDUSTRY	**9043**	**8598**	**9243**	**10576**
Iron and steel	8	7	6	8
Chemical and petrochem.	214	221	247	237
Non-metallic minerals	3715	2945	3446	4292
Machinery	180	192	187	216
Transport equipment	3	12	13	36
Mining and quarrying	119	78	91	211
Food and tobacco	4014	4277	4385	4520
Paper, pulp and print	108	108	99	124
Wood and wood products	54	55	44	41
Construction	201	187	231	355
Textile and leather	232	243	305	306
Not elsewhere specified	195	273	189	230
TRANSPORT	**28133**	**29991**	**30779**	**31722**
Domestic aviation	1008	1410	1999	2324
Road	26454	27640	27830	28733
Rail	258	542	437	236
Pipeline transport	319	330	455	368
Domestic navigation	28	21	20	18
Non-specified	66	48	38	43
OTHER	**64055**	**67352**	**71940**	**74365**
Residential	50114	52724	56254	57953
Comm. and public services	10952	11250	11165	11833
Agriculture	2989	3378	4521	4579
NON-ENERGY USE	**1911**	**1849**	**2126**	**3281**
Statistical differences	-	-	-	-

2.3. THE ENERGY BALANCE for 2015-2018

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
Primary Production	934	1010	1100	1137
From other sources	405	408	279	312
Imports	2522	2597	2874	3013
Exports	24	22	48	40
International bunkers	-	-	-	-
Stock changes	-5	-4	10	12
GROSS CONSUMPTION	**3832**	**3989**	**4195**	**4410**
TRANSFORMATION, INPUT	**590**	**604**	**584**	**613**
Electricity plants	6	5	10	13
Main activity producer combined heat and power (CHP) plants	398	399	371	407
Autoproducer combined heat and power (CHP) plants	43	45	42	40
Main activity producer heat plants	56	63	70	58
Autoproducer heat plants	63	66	68	75
Oil refineries	-	-	-	-
Petrochemical plants	22	26	21	18
Liquefaction plants	-	-	-	-
Charcoal production plants	2	2	2	2
Not elsewhere specified - transformation	-	-	-	-
TRANSFORMATION, OUTPUT	**474**	**495**	**481**	**493**
Electricity plants	6	5	8	10
Main activity producer combined heat and power (CHP) plants	308	312	303	320
Autoproducer combined heat and power (CHP) plants	27	30	34	30
Main activity producer heat plants	62	67	60	62
Autoproducer heat plants	54	58	55	59
Oil refineries	-	-	-	-
Petrochemical plants	16	22	21	12
Liquefaction plants	-	-	-	-
Charcoal production plants	1	1	-	-
Not elsewhere specified — transformation	-	-	-	-
Energy sector	**24**	**25**	**25**	**23**
LOSSES	**188**	**182**	**185**	**177**

thousands of tonnes of coal equivalent

SUPPLY AND CONSUMPTION	2015	2016	2017	2018
FINAL CONSUMPTION	**3504**	**3673**	**3882**	**4090**
FINAL ENERGY CONSUMPTION	**3441**	**3608**	**3812**	**3981**
INDUSTRY	**305**	**290**	**308**	**357**
Iron and steel	0	0	0	0
Chemical and petrochem.	7	6	8	8
Non-metallic minerals	124	101	117	146
Machinery	6	6	5	7
Transport equipment	0	0	0	1
Mining and quarrying	4	4	3	7
Food and tobacco	138	146	149	153
Paper, pulp and print	4	4	3	5
Wood and wood products	1	1	1	1
Construction	7	6	6	11
Textile and leather	8	8	10	11
Not elsewhere specified	6	8	6	7
TRANSPORT	**943**	**1023**	**1050**	**1083**
Domestic aviation	34	48	67	80
Road	888	942	950	981
Rail	9	19	15	8
Pipeline transport	9	11	16	12
Domestic navigation	1	2	1	1
Non-specified	2	1	1	1
OTHER	**2193**	**2295**	**2454**	**2541**
Residential	1722	1797	1916	1979
Comm. and public services	368	384	384	406
Agriculture	103	114	154	156
NON-ENERGY USE	63	**65**	**70**	**109**
Statistical differences	-	-	-	-