

**First Annual Report
under the Energy Efficiency Directive**

Republic of Moldova

August 2017

A. National energy efficiency target for 2020

[Republic of Moldova] TARGETS [ktoe]	2015¹	2016	2017	2018	2019	2020
BUILDINGS /residential/	38,7	40,1	46,45	53,81	62,33	72,2
INDUSTRY	8,6	8,3	9,63	11,17	12,96	15,0
TRANSPORT	19,6	16,7	19,34	22,39	25,92	30,0
PUBLIC/ SERVICES	7,4	27,8	32,20	37,29	43,18	50,0
ARTICLE 3	74,3	92,9	107,6	124,6	144,4	167,2
ARTICLE 5²				0,21	0,42	0,64
ARTICLE 7			7,10	14,21	24,15	34,10
FEC	2'074	2'102	2'123	2'145	2'167	2'190
PEC	2'350	2'506	2'549	2'593	2'637	2'683

Note: 1 - Moldova has established cumulative energy savings in NEEAP 2013-2015, which differs from the approach used in case of EED and which results are shown in the table above. Figures with *Italic* represent a projection of the energy savings to be achieved by 2020.

2 - Energy savings in public buildings owned and/ or occupied by central governmental bodies were assessed according to the information hold at 1st of June, 2017. A set of assumptions were accepted for calculating the target under art. 5, as average savings in kWh per m² per annum

3 - Energy savings assumed under art. 7 for 2017 could be re-distributed over next years according to the draft law on energy efficiency

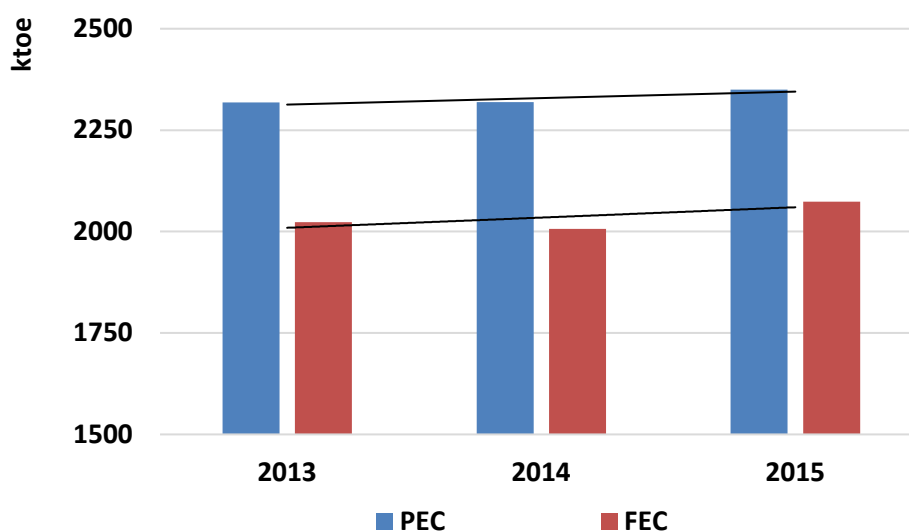
B. Key statistics data

Estimation of key statistics related to energy consumption in 2015	Value	Unit
Total primary energy consumption	2,350	ktoe
Total final energy consumption	2,074	ktoe
Final energy consumption – Transport	646	ktoe
Final Energy consumption – Industry	209	ktoe
Final Energy consumption – Agriculture/ forestry	74	ktoe
Final energy consumption – Households	885	ktoe
Final energy consumption – Public/ Services	260	ktoe
Gross value added by sector – Industry http://www.statistica.md/category.php?l=ro&idc=191&	15,063,197	‘000 MDL
	720,641	‘000 EUR
Gross value added by sector – Services http://www.statistica.md/category.php?l=ro&idc=191&	56,355,204	‘000 MDL
	2,696,099	‘000 EUR
Disposable income of households http://statbank.statistica.md/pxweb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala__04%20NIV__NIV010/NIV010200.px/table/tableViewLayout1/?rxid=8ebd14c1-7adf-494b-9840-9cb85498f247	1957	MDL
	93.61	EUR
Gross domestic product (GDP) http://www.statistica.md/category.php?l=ro&idc=191&	122,562,742	‘000 MDL
	5,863,545	‘000 EUR
Electricity generation from <i>thermal power plants</i>	-	ktoe
Fuel input for <i>thermal power plants</i>	-	ktoe
Electricity generation from <i>combined heat and power</i>	73	ktoe
Heat generation from <i>combined heat and power plants</i>	143	ktoe
Fuel input for <i>combined heat and power generation</i>	279	ktoe
Heat generation from <i>Heat-only boiler station plants</i>	43	ktoe
Fuel input for <i>Heat-only boiler station plants</i>	39	ktoe
Passenger kilometres (pkm)	4,513.4	Mil. pkm
Passenger kilometres (pkm), railways /from January to November/	168.9	Mil pkm

Estimation of key statistics related to energy consumption in 2015	Value	Unit
Passenger kilometres (pkm), buses and minibuses	2,801.5	Mil pkm
Passenger kilometres (pkm), fluvial	0.3	Mil pkm
Passenger kilometres (pkm), aerial	1,542.7	Mil pkm
Tonne kilometres (tkm)	3,738.8	Mil tkm
Tonne kilometres (tkm), railways	962.6	Mil tkm
Tonne kilometres (tkm), buses and minibuses	2,775.0	Mil tkm
Tonne kilometres (tkm), fluvial	0.4	Mil tkm
Tonne kilometres (tkm), aerial	0.8	Mil tkm
Combined transport kilometres (pkm + tkm)	8,252.2	Mil (pkm + tkm)
Population	2,998,235	inhab.
Average exchange rate (MDL/EUR) http://www.cursbnm.md/curs-valutar-mediulunar-bnm-2015	20.93	MDL

C. Overview of energy consumption trends

The diagrams shown below present the evolution of the primary and final energy consumption of the Republic of Moldova. A 0.7%/yr. increase of primary consumption and 1.25%/yr. increase of final energy consumption is being noticed for the period analysed.

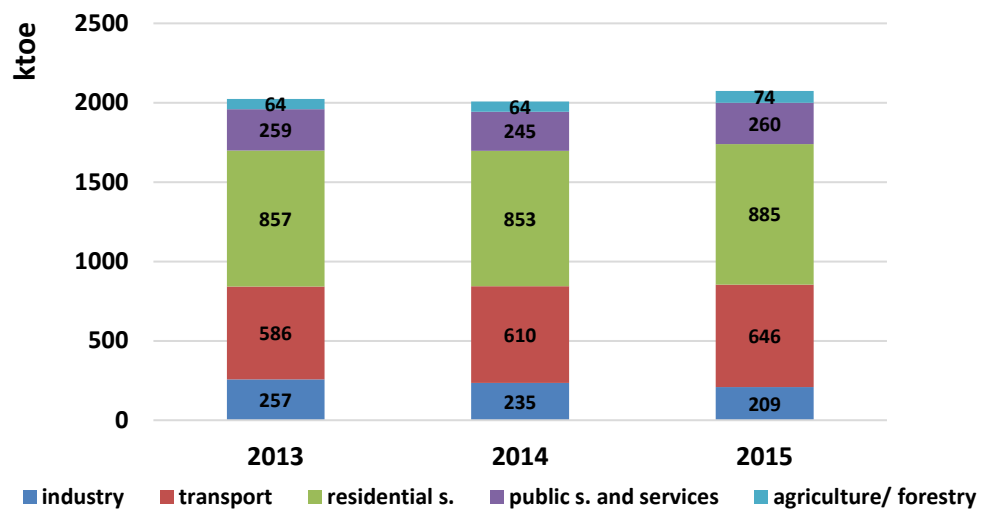


With regard to the structure of the final energy consumption, the diagram presented below shows its evolution for the last three years for which official statistics are available – from 2013 to

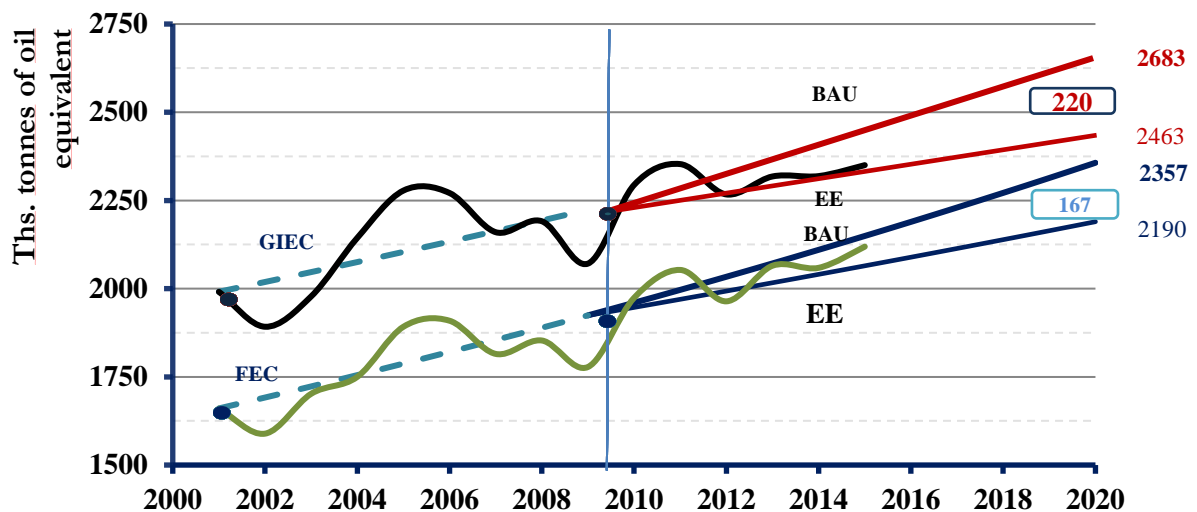
2015. As it can be noticed, no major „natural” changes in the FEC structure happened over that period, except revision of the biomass share, which was increased fourfold during the last period of 5 years. At the same time, another update of the biomass consumption is being expected for this year, after a deep research which was performed by National Bureau of Statistics and UNDP.

With regard to Industry, it keeps its share under 12% in the FEC, the increase in consumption being tempered mostly by energy efficiency measures and energy management. Also, a switching from fossil fuels to biomass and alternative types of energy movement was noticed in industrial sector, while transport sector maintains its high annual growing rate, amounting at 31% in FEC in 2015.

Residential sector keeps its domination in the FEC structure, with the biggest impact on country’s energy consumption and no added value to the GDP.



It is worth mentioning that during 2015-2016, along the NEEAP 2016-2018 elaboration phase, national authorities have forecasted both trends, for primary and final energy consumption. Those trends, as well as the energy efficiency scenario (EE), have been estimated. The Government vision on the country’s energy consumption until 2020 is presented below.



D. Update of measures implemented in last year

Both lists presented below show the major legislative and non-legislative measures implemented by national authorities in the previous year which contribute towards the overall national energy efficiency targets for 2020.

In this context, this section presents the most important **legislative measures** undertaken last 3 years, as described below.

The first national normative act transposing the *acquis communautaire* on energy efficiency, is the Law no. 142 as of 02.07.2010 on energy efficiency, which transposed partially the Directive 2006/32/EC on energy end-use efficiency and energy services. Towards law implementation, a number of secondary normative acts were approved, among which could be listed:

1. National Program on Energy Efficiency 2011-2020;
2. National Energy Efficiency Action Plan 2013-2015;
3. National Energy Efficiency Action Plan 2016-2018;
4. Regulation on energy audit;
5. Regulation on energy auditors authorization;
6. Methodology for energy audit cost calculation;
7. Regulation on energy services provision;
8. Methodology on energy savings calculation (a draft methodology is available, not yet approved).

The second NEEAP 2016-2018 was approved at the end of 2016 and presents a list of measures to be undertaken by all actors acting in energy sector in order to improve the efficiency of energy consumption and meet sectorial targets. Moreover, the second NEEAP presents a forecast of the country's energy consumption by 2020 (shown above), the national energy efficiency targets, in absolute values for both primary and final energy, and amounts the national Government commitments assumed under the 27th Directive on energy efficiency.

Another pack of legislative acts approved during the analyzed period are the following pieces of legislation:

- Law on energy performance of buildings (Law no. 128 as of 11.07.2014);
- Law on energy labeling of energy-related products (Law no. 44 as of 27.03.2014) – is being supported by the Regulation 1003/2014 which establishes a set of labeling requirements for the following appliances - household tumble driers, air conditioners, domestic ovens and range hoods, electrical lamps and luminaries,

household washing machines, household dishwashers, household refrigerating appliances and TV sets.

New regulations are being developed by the Ministry of Economy and Infrastructure, namely regulating such equipment as space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar devices, water heaters, hot water storage tanks and packages of water heater and solar device, office equipment and even tires.

- Law on eco-design requirements applicable for energy-related products (Law no. 151 as of 01.07.2016) – is being supported by the Regulation 750/2016 which establishes requirements for the following specter of equipment:
 - non-directional household lamp;
 - fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps;
 - directional lamps, for light emitting diode lamps and related equipment;
 - electric motors;
 - water pumps;
 - household dishwashers;
 - household washing machines;
 - household tumble driers;
 - vacuum cleaners;
 - air conditioners and comfort;
 - fans driven by motors with an electric input power between 125 W and 500 kW.

New regulations developed by the Ministry of Economy and Infrastructure refer to household refrigerating appliances, televisions, glandless standalone circulators and glandless circulators integrated in products, standby and off mode electric power consumption of electrical and electronic household and office equipment, simple set-top boxes, no-load condition electric power consumption and average active efficiency of external power supplies. To be noted that country's commitments referring to eco-design requirements result from the Moldova–European Union Association Agreement.

To be mentioned that, in comparison with the Law 44/2014 on energy labeling and the Law 151/2016 on eco-design requirements, which are fully functional and implementable, being supported by the secondary legislation and a fully operational control and supervisory institution – Agency for Consumers Rights Protection, the legal framework on energy performance of buildings is just partially implemented. This challenge on the Government agenda is seeking for external support on implementing the best practices in buildings area.

With regard to actual activities implemented by Moldovan authorities, the elaboration of the new law on energy efficiency (which transposes the Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency) could be reported, as well as the new regulation on energy auditors' certification, etc. Moreover, an institutional reorganization of the authorities responsible for energy efficiency and renewables policies implementation is being planned by Government, aiming at improving the expertise available in the field, the support offered to all interested parties and preparing also the base for good and successful implementation of the EPBD and EED in Moldova.

It is worth mentioning the efforts made by national authorities towards removing existing barriers and bottlenecks in national legislation blocking the third parties financing and energy services. A Guidelines on implementing energy performance contracts was prepared with the support of Development Parties (UNDP-GEF project "ESCo-Moldova"), including so called Standards documentation for energy service procurement. Simultaneously, authorities with competences in such regulated fields like public debts, ownership transfer, VAT and other taxes, public accountability, etc., are working on describing the most proper way for energy performance contracts implementation in both sectors – public and residential.

Having in mind that measures with legal impact should be accompanied with soft interventions, aiming at raising public awareness on energy efficiency and use of renewable energy, a set of **non-legislative measures**, namely communication activities are being implemented by national authorities.

Worth mentioning that the national institution responsible for communication and public awareness, according to National Communication Strategy in energy efficiency and renewables field¹, is the Energy Efficiency Agency. EEA has been continuously supporting by Development Partners, Donors active in energy sector, in preparing, managing and running activities for raising public interest for above mentioned topics, targeting all ages, genders and social classes year around. A list of most common communication activities being run by EEA and other partners is presented below:

1. Consultancy/ informational support
2. Mass-media campaigns
3. Mobile exhibitions
4. Radio and TV interventions, interviews
5. Audio and video spots, infographics

¹ National Communication Strategy in energy efficiency and renewables field is approved as an Annex to the National Energy Efficiency Program 2011-2020 (Government Decision no. 833 as of 10.11.2011)

6. Leaflets, brochures, guidelines, instructions, etc.

7. Public events:

- contests;
- festivals, concerts feed by solar energy, flashmobs;
- exhibitions;
- national and regional energy days;
- round tables, workshops, seminars, etc.

E. Central Government buildings (Article 5)

National authorities of the Republic of Moldova decided to rely on buildings renovation (according to the draft Law on energy efficiency) in order to fulfill with its commitments under art. 5, while alternative measures, like awareness raising campaigns, green public procurements, etc., remain at the Government disposal to be used for generating additional savings.

The total building floor area of the buildings occupied by the RoM's central governmental institutions with a total useful floor area over 500 m², according to the information provided by questioned bodies, as per 1st of June 2017, is about 3,130,810 m². The 1%/yr. refurbishment target equals to 31,308 m², requires an investment assessed at cca. 2.45 mil. EUR and would generate about 211 toe of energy savings, while above figures will change as of 1 January 2019 due to threshold change from 500 m² to 250 m². Respectively, the total surface will equal to 31,223 m², requiring an investment amounted at 2.5 mil. EUR and generating about 215 toe per annum.

To be mentioned that the following results, related to some EE implemented projects in 2016 in buildings under state governmental institutions management, could be reported as complying with the EEDs art. 5 criteria:

No. of projects	sector	Type of institutions	Year of implementation	Energy savings, toe
2	Medical sector	hospitals	2016	70

F. Energy efficiency obligations (Article 7)

With regard to EE obligation schemes and energy savings achieved under art. 7 of the energy efficiency Directive, zero (0) kWh savings can be reported at this chapter. All mechanisms and procedures related to this specific provision shall be described and introduced in national legislation by new Law on energy efficiency. The law shall enter into force in 2018.