

**5<sup>th</sup> Annual Report  
under the Energy Efficiency Directive**

REPUBLIC OF MOLDOVA

Prepared by: MINISTRY OF ECONOMY AND  
INFRASTRUCTURE

June 2021

*Key statistics and indicators*

<b>Estimation of key statistics and indicators in 2019</b>	<b>Value</b>	<b>Unit</b>
Total primary energy consumption (*)	2 936	ktoe
Total final energy consumption (*)	2 672	ktoe
Final energy consumption – Transport (*)	769	ktoe
Final Energy consumption – Industry (*)	234	ktoe
Final energy consumption – Households (*)	1 274	ktoe
Final energy consumption – Services (*)	272	ktoe
Gross value added by sector – Industry (**)	1 186	mil. EUR
Gross value added by sector – Services (**)	6 779	mil. EUR
Disposable income of households (**)	0.000 157	mil. EUR
Gross domestic product (GDP) (**)	10 691	mil. EUR
Electricity generation from thermal power plants (***)	-	ktoe
Electricity generation from combined heat and power (***)	70	ktoe
Heat generation from thermal power generation (***)	-	ktoe
Heat generation from combined heat and power plants, incl. industrial waste heat (***)	150	ktoe
Fuel input for thermal power generation (***)	-	ktoe
Passenger kilometres (pkm), if available (**)	6 693	mil. pkm
Tonne kilometres (tkm), if available (**)	6 508.4	mil. tkm
Combined transport kilometres (pkm + tkm), in case that separate values for pkm and tkm are not available (**)		
Population (**)	3.54	millions

Table 1: Key energy statistics data.

(\*) *Energy statistics*

(\*\*) *State Statistical office*

(\*\*\*) *Independent System Operator (ISO), electricity generation companies.*

## A. Overview of energy consumption trends

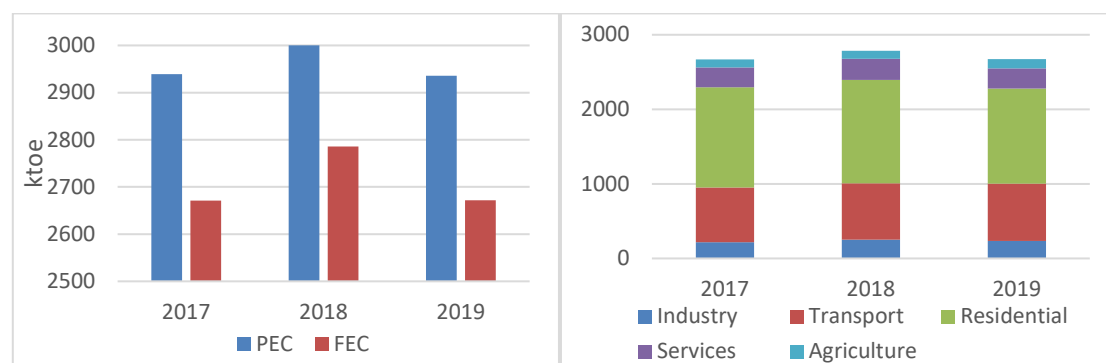


Figure 2: Final and primary energy consumption (left) and final energy consumption per sectors (right) in 2017 – 2019.

The energy consumption of the Republic of Moldova is constantly increasing year by year due to the economic growth. However, taking into consideration that the residential sector is the main energy consumption sector in Moldova, a strong and direct „bond” between the climatic conditions and the energy consumption is noticed.

In 2019 the abnormal high winter temperature has significantly reduced the energy consumption in both industry and residential sectors, while the services, transport and agriculture segments registered an increase.

## National energy efficiency targets

TARGETS	2016	2017	2018	2019	2020
<b>EED ARTICLE 3</b> [ktoe]	92.9	107.6	124.6	144.4	167.2
<b>EED ARTICLE 5</b> [ktoe]				0.05	0.1
<b>EED ARTICLE 7</b> [ktoe]				12,23	24,46
<b>GIEC</b> [ktoe]	2839	2871	2903	2936	2968
<b>FEC</b> [ktoe]	2589	2633	2678	2723	2796
<b>FEC - BUILDINGS<sup>1</sup></b> [ktoe]		46.45	53.81	62.33	72.2
<b>FEC - INDUSTRY</b> [ktoe]		9.63	11.17	12.96	15.0
<b>FEC – TRANSPORT</b> [ktoe]		19.34	22,39	25,92	30,0
<b>FEC – OTHERS<sup>2</sup></b> [ktoe]		32.20	37.29	43.18	50.0
<b>PRIMARY ENERGY</b>	0.45	0.27	0.24	0.22	0.19

<sup>1</sup> The indicator refers to „residential buildings”

<sup>2</sup> The indicator refers to „public buildings”

<b>INTENSITY</b> [ktoe/mil. EUR]					
<b>FINAL ENERGY INTENSITY</b> [ktoe/mil. EUR]	0.41	0.252	0.227	0.204	0.184

Table 3: Division of targets per sectors and per different articles of EED

## Update of measures implemented in last year

### • Legislative measures

During the last 12 months the following activities could be reported, as follows:

- Drafting and promotion of the GD no. 372/2020 on approving the *Program for the renovation of buildings owned and occupied by central government 2020-2022* (art. 5 EED);
- Drafting and promotion of the GD no. 676/2020 on approving the *Regulation on energy auditors and energy audit*. According to the Regulation, the Energy Efficiency Agency has:
  - drafted the „Code of Conduct for the Energy Auditor“;
  - drafted the energy audit templates, according to categories, including audit requirements;
  - drafted the guide for performing quality control audits.
- Drafting and promotion of the *Regulation on conducting energy audits by large enterprises*;
- Drafting of the *Long-term strategy for mobilizing investment in the renovation of the building national stock*, the promotion of the strategy is expected after the conclusion of the energy modelling exercise carried out in the context of drafting the Integrated National Energy and Climate Action Plan;

Worth mentioning that the Ministry of Economy and Infrastructure together with the consultants of the „STARS“ technical assistance project have drafted the „energy“ component of the Integrated National Energy and Climate Action Plan. The first drafts should be available until the end of 2021, while its promotion is planned for the year 2022.

The Ministry of Economy and Infrastructure has continued to promote the development of the „Moldova Energy Efficiency Project“, a 75 million EUR energy efficiency in public buildings project, financed by the European Investments Bank, European Reconstruction and Development Bank and by Neighbourhood Investment Platform (grant provider). Within this activity, during 2020 the following actions were implemented:

- Drafting and promotion of the GD no. 218/2020 on initiating the negotiations on the draft financing contract between the Republic of Moldova and the European Investment Bank "Moldova Energy Efficiency Project";
- Drafting and promotion of the GD on initiating negotiations and approval of the signing on the draft Cooperation Agreement between the Government of the Republic of Moldova / Ministry of Economy and Infrastructure and the European Investment Bank on Technical Assistance for the preparation and implementation of the "Moldova Energy Efficiency Project".
- Drafting and promotion of the GD on the initiation of negotiations and signing approval of the Grant Agreement between the Ministry of Economy and Infrastructure and the

European Investment Bank for the implementation of the project "Moldova Energy Efficiency Project".

All the agreements are to be concluded, negotiated and signed by the end of the year 2021, while the projects' implementation phase is expected to start in Q1, 2022.

- **Non-legislative measures**

Within the EU4Energy Governance component, the Ministry of Economy and Infrastructure, Energy Efficiency Agency, National Energy Regulatory Agency and the national Distribution System Operators received support in preparation for smart meters' implementation/ roll out in Moldova, in line with the requirements of the Annex I of the Directive 2009/72/EC. The project prepared a gap analysis of the legislative and regulatory framework and needed improvements and amendments.

With the support of the International Energy Agency, as part of the EU4Energy programme, the 'System Integration of Renewables for Moldova' roadmap was drafted. The main purpose of this document is to guide policymakers of all levels at the deployment and system-friendly integration of variable renewables from domestic sources, as wind and solar PV generation, within the Moldovan electricity supply.

The Energy Efficiency Agency launched the call for project proposals no. 7 in the field of Renewable Energy Sources, regarding the promotion of solar energy recovery technologies by financing demonstrative projects. Within this Call, 10 project proposals were submitted.

On June 26, 2020, the Energy Efficiency Agency, together with the Energy Community Secretariat and Ministry of Economy and Infrastructure, as well as a Consulting Company, signed the Agreement on the transfer of the Platform for monitoring and verification of the NEEAP implementation.

The Energy Efficiency Agency, as national institution responsible for communication and public awareness, according to National Communication Strategy in energy efficiency and renewable energy sources field, with the support of development partners, organised more than 15 events related to energy efficiency and renewable energy sources during the year 2020. Among those events, the following initiatives can be mentioned:

- February 25, 2020 – EEA, in partnership with the Centre for Continuing Education in the Field of Energy Efficiency of Public Buildings of the Technical University of Moldova (TUM) organized a working meeting with the heads of LPAs education departments with the aim to familiarize them with the Training Programs offered by CFCEEC, as well as to identify the capacity development needs of public institutions (in particular educational institutions).
- March 3-5, 2020 - with the support of the „STARS” technical assistance project the workshop on „Transfer of knowledge on the practical experience of financing mechanisms based on revolving principles” was organised.
- June 25-26, 2020 during the European Sustainable Energy Week 2020, the Energy Efficiency Agency joined the event with an informational video spot dedicated to energy labelling. In this regard a series of informative materials (leaflets, informational video spots, radio and TV spots) were designed and published during 2020.

The Ministry of Economy and Infrastructure together with the Energy Efficiency Agency, Ministry of Education, Culture and Research, the Branch of the International Foundation "Liechtenstein Development Service" in Moldova and the Public Association "Education for Development" signed the Memorandum of Understanding on support in implementing the project "Initiatives for the Development of Competencies in the Field of Solar Energy II" (SECI II).

The partner institutions set as priority the development of short-term training programs for installers of RES (Renewable Energy Sources) equipment, with an emphasis on continuous training for the following RES qualifications:

- Installers of solar photovoltaic systems;-
- Installers of solar thermal systems.

## **B. Central Government buildings (Article 5)**

The Ministry of Economy has elaborated the First Programme for renovation of the central government owned and occupied buildings for 2020-2022, which was approved by the Government Decision 372/2020 and corresponds to the first option provided by the EED.

Currently, the central government buildings stock inventory contains 215 records (buildings) with total declared useful floor area of the building stock in the amount of 426.056 m<sup>2</sup>. The "First programme for renovation of the central government owned and occupied buildings for 2020-2022" targets two priority buildings with total useful area of 10 086 m<sup>2</sup> which will result in fulfilling the one percent yearly obligation of Article 5 of the EED and Article 14 in new EE Law of Moldova. The total investments for the First programme is evaluated in the amount of 37 950 857 million MDL (about 1.2M EUR).

Worth mentioning that the first buildings included in the program was rehabilitated. Nevertheless, given the pandemic and its impact, most of the information of the performance achieved will be collected and processed at a later stage.

## **C. Energy efficiency obligations (Article 7)**

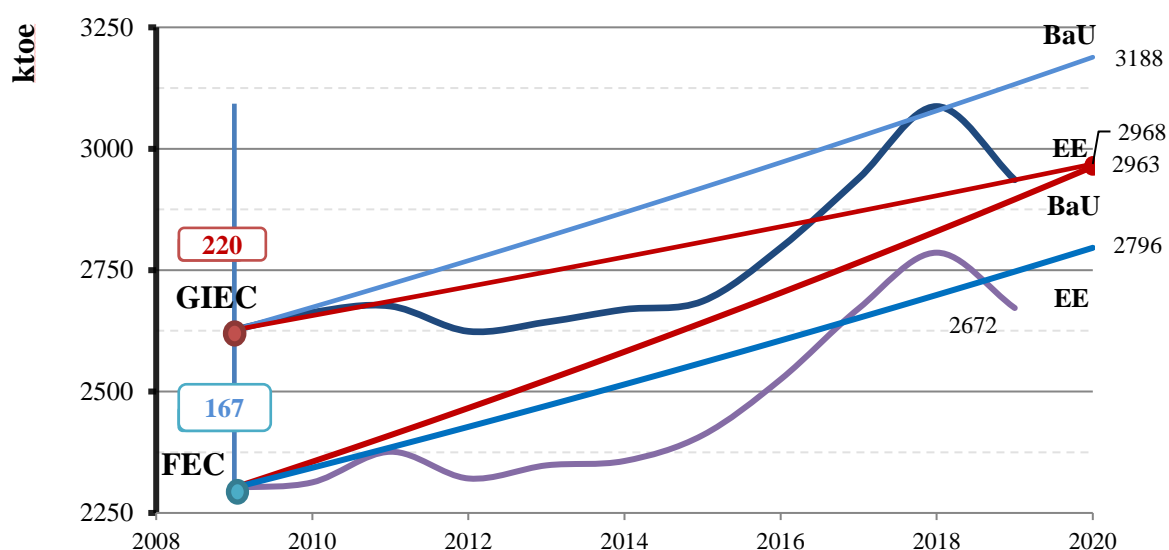
With regard to the EEOS and energy savings to be achieved under art. 7 of the energy efficiency Directive/ art. 8 of the Law 139/2018 on energy efficiency, the Ministry of Economy and Infrastructure, has notified a cumulative target until 2020 of 27.51 ktoe or 36,68 ktoe, without using exemptions.

The analysis done by the MoEI showed that currently there are many ongoing initiatives (projects and programmes that finance the implementation of energy efficiency projects in public buildings, residential, industry, energy sector, etc.) that are contributing to the target set by national authorities, as alternative measures and, implicitly, reducing the need in operationalising the EEOS (at least by 2020). Thus, out of the notified expected saving of 28.87 ktoe, 0% will be delivered by the obligated parties and 100% by alternative policy measures.

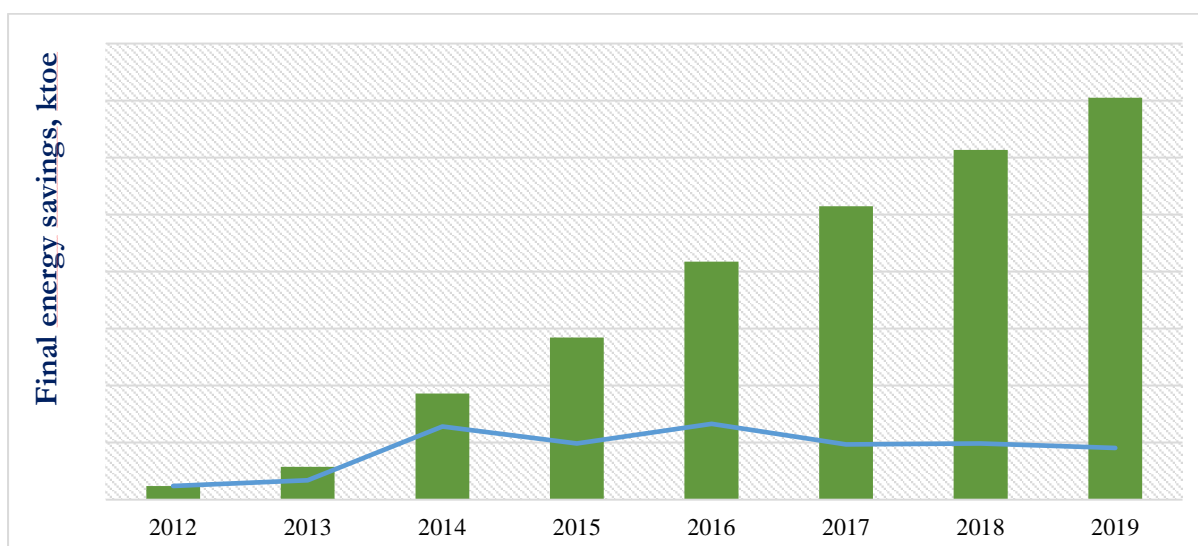
Table shown below present the result of calculations made in order to assess the energy savings target to be reached in 2019 and 2020.

Average 2013-2015, ktoe				1,746.67
year	annual % savings	annual energy savings		total annual savings
2019	0.70%	12.227		12.227
2020	0.70%	12.227	12.227	24.453
total cumulative savings 2017 - 2020				36.680

With regard to achieved results, the following graphical information could be provided. So, the national energy statistics available for 2019 shows a reduction of the consumption, both primary and final, of about 5%.



Using a hybrid approach at the estimation of energy savings generated by the undertaken measures, which combines „top-down” methodology (especially for the financing of EE measures by the local banking sector) and „bottom-up” for the remaining fields, the following results can be reported for the last period, including the year 2019.



Year	2015	2016	2017	2018	2019	2020
Goals	74,3	92,9	107,6	124,6	144,4	167,2
Results	56,9	83,5	102,9	122,7	140,9	-

Worth mentioning that about 30% of the savings in 2019 were identified using the „bottom-up” approach, and do comply with the materiality and additionality criteria, while the remaining part was assessed using the „top-down,, modality and a set of pessimistic assumptions regarding the amount of loans channelled to EE interventions in industrial equipment, residential and tertiary buildings, etc. Nevertheless, it is expected so that with the operationalisation of the MVP platform during the year 2020 and 2021, the information collected and reported by EEA on the achieved energy savings will have a higher degree of precision.

A more detailed presentation of the achieved energy savings, per sector of final energy consumption, is provided in the table below.

Sectors	Planned energy savings (ktep)				Achieved energy savings (ktep)			
	2016	2017	2018	2019	2016	2017	2018	2019
Residential	40,1	48,12	56,14	62,33	15,87	20,33	26,33	31,82
Services	27,8	33,36	38,92	43,18	15,32	22,56	27,94	32,31
Industry	8,3	9,96	11,62	12,96	51,97	59,54	67,93	76,12
Transport	16,7	20,04	23,38	25,92	0,36	0,49	0,59	0,69
<b>TOTAL</b>	92,9	111,5	130,1	144,4	83,52	102,93	122,79	140,94