

Fourth Annual Report under the Energy Efficiency Directive

Republic of Serbia

Prepared by: Ministry of Mining and Energy

September 2020

A. Key statistics and indicators

Estimation of key statistics and indicators in 2018	Value	Unit
Total primary energy consumption (*)	15370	ktoe
Total final energy consumption (*)	8470	ktoe
Final energy consumption – Transport (*)	2138	ktoe
Final Energy consumption – Industry (*)	2397	ktoe
Final energy consumption – Households (*)	2872	ktoe
Final energy consumption – Services (*)	891	ktoe
Gross value added by sector – Industry (***)	9,008.5	mil. EUR
Gross value added by sector – Services (**)	1,805,238.9	mil. RSD
Disposable income of households (**)	59198	RSD
Gross domestic product (GDP) (**)	3,737,370.6	mil. RSD
Electricity generation from thermal power plants (*)	2.147 Mtoe	ktoe
Electricity generation from combined heat and power (*)	0.024 Mtoe	ktoe
Heat generation from thermal power generation (*)	0.516 Mtoe	ktoe
Heat generation from combined heat and power plants, incl. industrial waste heat ()		ktoe
Fuel input for thermal power generation (*)	6273	ktoe
Passenger ¹ kilometres (pkm), if available (**)	7752	mil. pkm
Tonne kilometres (tkm), if available (**)	8014 мил ²	mil. tkm
Combined transport kilometres (pkm + tkm), in case that separate values for pkm and tkm are not available (**)		

¹The Value is from 2015

² The Value is from 2015

Estimation of key statistics and indicators in 2018	Value	Unit
Population (**)	7,001444	millions

Table 1: Key energy statistics data.

(*) Energy balance of the Republic of Serbia for 2020

(**) Statistical Office of the Republic of Serbia

(***) EUROSTAT

B. Overview of energy consumption trends

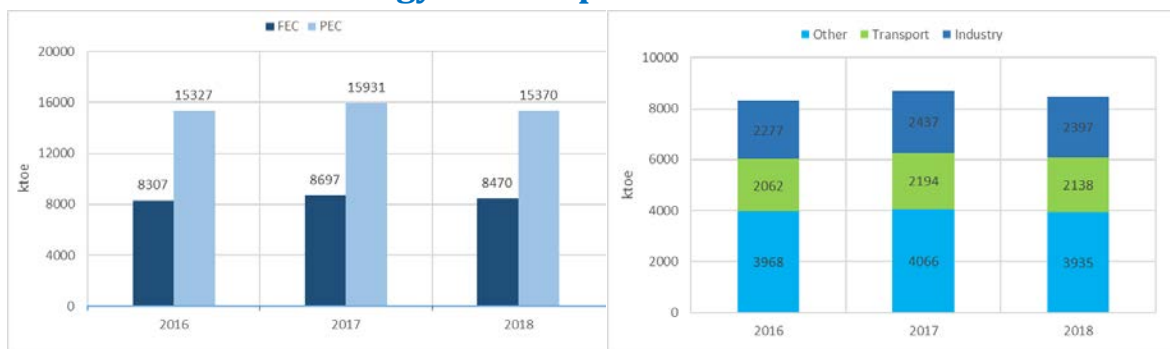


Figure 2: Final and primary energy consumption (left) and final energy consumption per sectors (right) in 2016 – 2018 (example).

Final energy consumption (FEC) decreased for 2% in the period 2010-2018. More precisely, FEC was reduced in the period 2012-2014 while in the period 2015-2018 there was some increase following growth of economic activities. Primary energy consumption (PEC) was reduced about 13% in the period from 2010-2014 while in the period from 2014-2018 there was the increase resulting with growth of 15%.

National energy efficiency targets

TARGETS	2016	2017	2018	2019	2020
EED ARTICLE 3 [ktoe or other unit]			752.4 ³		
EED ARTICLE 5 [ktoe or other unit]					12407,88 ⁴ m ²

³ Energy savings according to ESD

⁴ Total floor area of CGB to be rehabilitated in 3 years (1% annually) in accordance with CGB list

EED ARTICLE 7 [ktoe or other unit]					317.5 ⁵
PEC [ktoe]					17,981 ⁶
FEC [ktoe]			9,3767		13,103 ⁸
FEC - BUILDINGS [ktoe]			277.69		
FEC - INDUSTRY [ktoe]			122.7*		
FEC - TRANSPORT [ktoe]			194.0*		
FEC – OTHERS [ktoe]			158.1*		
PRIMARY ENERGY INTENSITY [ktoe/mil.EUR]					
FINAL ENERGY INTENSITY [ktoe/mil.EUR]					

Figure 1: Division of targets per sectors and per different articles of EED (example)

C. Update of measures implemented in last year

• Legislative measures

- The Decree on the **Program for Financing Activities and Measures for Improvement of Efficient Use of Energy** in 2019 ("Official Gazette of RS", No. 4/19 of 25 January 2019)

The Decree on the **Program for Financing Activities and Measures for Improvement of Efficient Use of Energy** in 2020 ("Official Gazette of RS", No. 63/20, April 2020)

The Decrees determines subjects and kind of energy efficiency measures that may be financed from Budgetary Fund for Energy Efficiency Improvement if the Republic of Serbia (hereinafter: Budgetary Fund) in 2019 and 2020.

- **Rulebook on Conditions for Distribution and Use of Resources of the Budgetary Fund** for Energy Efficiency Improvement of the Republic of Serbia and Criteria for Exemption from Mandatory Energy Audit ("Official Gazette of RS", No. 12/19 of 22 February 2019)

The Rulebook defines the ways of distribution and use of resources of the Budgetary Fund. Based on the above mentioned Decree and according to the Rulebook, a public call was launched and conducted in order to cofinance energy efficiency projects of local self government units from the Budgetary Fund resources.

- **Rulebook repealing Rulebook on energy efficiency labelling of vacuum cleaners** ("Official Gazette of RS", No. 20/19 of 22 March 2019)

The Rulebook on energy efficiency labelling of vacuum cleaners ("Official Gazette of RS", No. 24/17 of 17 March 2017) was adopted in order to transpose in Serbian legislation Commission Delegated Regulation (EU) No 665/2013 of 3 May 2013 supplementing Directive 2010/30/EU with regard to energy labelling of vacuum cleaners. The Regulation was repealed in EU by the Judgment of

⁵ EBRD REEP technical assistance

⁶ According to POS

⁷ According to 1st NEEAP

⁸ According to POS

⁹ * APEE 3 Table 3

the General Court (Fifth Chamber) of 8th November 2018 No. 62013TJ0544(01), so the Rulebook was repealed as well.

- **Rulebook on the application form for evidence of the payars of the energy efficiency fee**, the monthly and annual form for calculation of quantities of energy or energy-generating products delivered to the customers or put on the Republic of Serbia market or imported into Republic of Serbia, on the form for calculate monthly or annual obligation to pay the contribution, the form for reporting on the payment, as well as on the way how to submit these forms (Official Gazette RS, No. 41/19 of 11 June 2019) - on the basis of the Law on the Contributions for the Use of Public Goods (Official Gazette RS, No. 95/18 and No. 49/19).

- **The Decision authorising the Faculty of Mechanical Engineering of Belgrade University for the Training of Energy Managers and Authorised Energy Auditors** (Official Gazette RS, No. 84/19 of 29 November 2019)

- **Rulebook amending Rulebook on Energy Efficiency Labelling of Electrical Lamps and Luminaires** ("Official Gazette of RS", No. 59/20 of 22 April 2020).

- **The Decree on the Program for Financing Activities and Measures for Improvement of Efficient Use of Energy in 2020** ("Official Gazette of RS", No. 63/20 of 30 April 2020).

At the proposal of the Ministry of Construction, Transport and Infrastructure (hereinafter: MCTI), the **Law on Amendments to the Law on Planning and Construction was adopted ("Official Gazette of RS", No. 83/2018)**. This amendment prescribes the obligation to issue certificates on the energy performance of buildings - energy passports through the Central Register of Energy Passports (CREP), which introduced a unified database of Energy Passports for the territory of the Republic of Serbia. MCTI also initiated revision of this Law so the **Law on Amendments to the Law on Planning and Construction was adopted ("Official Gazette of RS", No. 9/2020)**. This amendment establishes the legal basis for drafting and adopting a "long term strategies for mobilizing investment in the renovation of the national stock of residential and commercial buildings, both public and private".

During 2019 Ministry of Mining and Energy conducted public hearing for the Draft Law Amending the Law on Efficient Use of Energy which was sent in the procedure for obtaining opinions from relevant institution in order to be approved by the Government at the end of 2019. The amendments have improved the existing standards, especially with regard to the Energy Management System, requirements for new and rehabilitated plants for the production, transmission and distribution of energy, revision of provisions that will allow the introduction of eco-design, introduction of information systems, obligations of suppliers of energy and energy sources to deliver data to information systems, etc. The purpose of these amendments is not the full alignment with EU regulations in this area, as that will also be implemented to a lesser extent, since full alignment with EU regulations is expected through another amendment, which will be prepared under IPA 2014 project "Technical Assistance to the Ministry of Mining and Energy and relevant public entities for implementation of the new Energy Law, NEEAP, and the RES Directive".

- **Non-legislative measures**

Budget Fund

The Fifth Public call of Budgetary fund for energy efficiency for rehabilitation of public buildings in Municipalities was launched at the end of February 2019 and lasted until the end of March. For the

implementation of the public call from the funds of the Budget of the Republic of Serbia RSD 325 million was provided, which is almost 3 time bigger than for the previous year. In the mid of June 2019 contracts with 24 Municipalities were signed. The total value of the projects was RSD 490,628,865.92, and the contribution of municipalities was RSD 165,628,865.92. Estimated energy savings are around 8.2 million kWh per year and CO2 reductions of around 3300 tCO2 / year.

In the end of October 2019, a sixth public call of Budgetary fund for energy efficiency for rehabilitation of public buildings in Municipalities was launched. 42 Municipalities applied for the Public Call. In February 2020, in the first phase, ranking list was adopted and published on the website of the Ministry. The ranking list of project included applications that meet the requirements of the Public call, namely 17 applications related to projects for improving the energy efficiency of buildings and one application related to the project of modernization of public lighting. In May 2020, in the second phase, the Decision on financing energy efficiency improvement projects in Municipalities was published, based on the ranking list adopted in the first phase. In the beginning of June contracts with 14 Municipalities were signed. Total value of the projects is around 250 million RSD. From the Budgetary Fund 160 million RSD, while around 90 million RSD will be provided by the Municipalities. Funds were allocated for projects in 14 Municipalities (4 cities, 9 municipalities and 1 city municipality)

Energy Management System

In 2018 and 2019, 133 energy managers were licensed in local self-government unit bodies, in companies with dominant business activities in the production sector and enterprises as public services and in companies having their major activity in the trade and services sector, public administration bodies, other bodies of the Republic of Serbia and bodies of the autonomous province. Designated organizations of the energy management system have appointed 98 energy managers and submitted 96 annual reports on the achievement of energy conservation goals for its location.

The Law on Fees for Use of Public Goods, (Official Gazette of RS, No. 95/18 and 49/19) introduced Energy Efficiency fee. The Rulebook prescribing application form for companies obliged to pay Energy Efficiency fee, as well as forms for calculation of the Fee and for reporting on the Fee payment (Official Gazette of RS, No. 41/19) was adopted in June 2019. The collection of Energy Efficiency fee started in July. By the end of 2019 more than 560 mil RSD was collected for EE fee.

Strategic documents

Developing a Long-Term Strategy for Mobilizing Investments in Renovation of the National Building Stock. In 2019, a Terms of Reference document was drafted for the “Long-Term Strategy for Mobilizing Investments in Renovation of the National Building Stock”, in accordance with Article 2a of Directive 2010/31 / EU and in conjunction with Article 53 of Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action. An international consultant BPIE (Buildings Performance Institute Europe) was engaged for the preparation of the Terms of Reference through a technical support project within the Serbian-German Cooperation GIZ (DKTI EE), after which public procurement was conducted for the selection of expert team to develop a strategic document. Based on the public procurement notice, the Decision on Award of Contract dated December 4, 2019 a team of local experts was selected to develop a Long-term strategy for mobilizing investments in renovation of the national building stock. Strategy development started on December 12, 2019. when the contract was concluded between the contracting parties: Republic of Serbia - MCTI and the group of bidders with main contractor Studio OBE DOO Belgrade. Several meetings were held with the institutions that have the data needed to develop the strategy. On March 19, 2020, the consulting team sent a letter to MCTI,

requesting the data necessary for the development of the Strategy, given that the Consultant adopted the conclusion that the necessary data cannot be found in the database of a single institution, but that it is necessary to send the requests to a number of different institutions. On March 24, 2020 MCTI sent official letters to all relevant institutions requesting information. Data collection is in its final stage.

Fourth Energy Efficiency Action Plan in the Republic of Serbia. During 2019, data were collected on the implementation of the third action plan, which are in the final stage of processing, as well as the preparation of the fourth action plan. The development of the action plan was not completed in 2019 due to extensive work on data collection and processing and understaffed Energy Efficiency Improvement Department, as well as a large volume of other activities. GIZ-ORF consultants' technical assistance was provided to the Ministry of Mining and Energy for the processing of the collected data.

Projects

IPA 2014 project “Technical Assistance to the Ministry of Mining and Energy and relevant public entities for implementation of the new Energy Law, NEEAP, and the RES Directive”. Some of the aims of the project are to align Serbian regulation with the EU Acquis on energy efficiency and raise awareness on EE.

The project started in March 2019. So far, gap assessment on needed alignment of Serbian regulation with EU Acquis was developed and work on the new Law on efficient use of energy is under way. Gap assessment on the needs for awareness rising also already started as well as preparatory activities for promotion of energy audits for SMEs. In the end of 2019 a study tour to Estonia was implemented in order to learn from Estonian experience on implementation of EU EE Acquis.

Project „Energy Efficiency in Central Government Buildings“: Aim of the Programm is rehabilitation of 28 out of 56 Central Government Buildings that were listed in the Notification to the Energy Community Secretariat for implementation of Article 5 of the EED.

In cooperation with Council of Europe Development Bank (CEB) and United Nations Development Programme (UNDP) in spring of 2019 Ministry of Mining and Energy has prepared the application for WBiF grant in order to support Preparatory activities for the Programme „Energy Efficiency in Central Government Buildings“ which will be funded through CEB Programme loan LD 2025 (2019). On 26 June 2019 the WBiF Steering Committee approved by virtue of the GAF, the allocation of grant funds (EUR 300,000) for this Technical Assistance even though 2.3 mill EUR was requested. CEB has secured additional 600.000 EUR from the Slovak Social Inclusion Grant Account, Spanish Social Cohesion Account.

Framework Loan agreement between CEB and Republic of Serbia was signed in March 2020. Ratification is expected upon establishment of the new government as well as agreements for all donations, which are prepared.

Project: “ Greening the Public Sector- Rehabilitation of Vojnomedicinska akademija (VMA) Hospital ”. The aim of the Project is to rehabilitate the VMA Hospital, one of the most important healthcare institutions in the Republic of Serbia, in order to achieve great energy savings and improve the quality of services.

The rehabilitation of VMA Hospital project is envisaged to be carried out in three phases.

The first phase of the Project will be implemented within the framework of Financial cooperation between the Republic of Serbia and the Federal Republic of Germany. For the implementation of part of the first phase of the Project, EUR 50 million loan was secured under the project “Energy efficiency in public buildings and renewable energy in the district heating sector (The Greening of the Public Sector)”. Through negotiations held in November 2019, EUR 25 million loan and EUR 2 million grant are foreseen to be provided from part of the funds of the new project “Promoting Energy Transition in the Public Sector”.

For the purpose of preparation of the Hospital VMA Rehabilitation Project, a study entitled “Hospital VMA Refurbishment with the Main Focus on Energy Efficiency Measures - Joint Report of External Experts, August 2018” was prepared. On September 17, 2019, the study was presented to the working group set up by the Ministry of Mining and Energy. Regarding the adoption of technical and other measures and the estimate of indicative investment value of the measures, a visit to the VMA Hospital building was organized for consultants and representatives of the working group on October 28, 2019.

Based on the assessment of a framework investment, in January 2020 the Project applied for a WBIF grant in the value of EUR 5 million aimed at preparation of technical documentation and project consultation activities. Evaluation of the project by the European Commission for WBIF is very positive and the grant of EUR 5 million for the project was approved

In June 2020 a Memorandum of Understanding between the Government of the Republic of Serbia and the German Development Bank KfW was signed for the implementation of the Project. *IPA 2014 Project “Technical assistance to the Ministry of Mining and Energy and relevant public entities for the implementation of the new Energy law, NEEAP and RES Directive”*. Implementation of the Project started in March 2019. Within the Project, so far, gap analyses on alignment of Serbian legislation with EU legislation in energy efficiency field was done. Revision of the Law on efficient use of energy will be prepared in order to fill in the gaps and make full alignment with EU Acquis in the EE field and particularly with EED. Project will also include development of awareness rising strategy for energy efficiency, including implementation of part of the strategy, as well as energy audits for SMEs.

IPA 2016 Project „Establishing and strengthening of capacities of the conformity assessment bodies for the implementation of Energy Labelling and Eco-design Directives”. Implementation of Project started in September 2019 and it is going to last for 30 months. The Project goal is the establishment of sustainable quality control infrastructure of Energy related products which are covered by technical requirements prescribed in Energy Labelling and Eco design Directives.

Program “Rehabilitation of District Heating Systems in the Republic of Serbia”

Development Program of the Republic of Serbia (RoS), realized under German Financial Cooperation with Serbia since 2001. The purpose of the Project is an efficient and reliable energy supply provided by economically operating district heating companies (DHC). This is to contribute to the goal of the consumers, the population and the environment benefitting from a sustainable, efficient and reliable energy supply laying ground for the convergence of Serbia to the EU (against the background of the Environmental chapter of the Acquis Communautaire). The importance of this Program and its influence on the overall stability of the energy system in our country, is obvious from the facts that, on one side, the installed capacity in approximately 60 DHCs operating in Serbia is almost equal to the installed capacity of our Power Industry (EPS), while the average maturity of the equipment in those DHCs is around 40 years, on the other. Thus, KfW’s support to this energy sub-sector, as its largest financier in our country, is precious.

Up to date, four Program phases, worth over 130 mil EUR have been completed. Through them, 22 DHCs have been rehabilitated. On behalf of the RoS, MoME is in charge of the Program implementation since its Phase III. Under Phases III and IV, 130 particular sub-project have been realized, resulting by:

- supply and installation of 3.700 heat meters,

- rehabilitation and modernization of 19 boilers houses;
- construction of 8 new boiler houses;
- construction of two CHPs (in Novi Sad and Belgrade);
- rehabilitation and/or construction of more than 210 km of networks;
- Reconstruction of over 1.000 of substations most of which is connected to a modern SCADA system.

All above mentioned contributed to the increase of energy efficiency of the boilers in the rehabilitated system parts to over 90%, significant reduction of heat and water losses, reduction of the emission of greenhouse gasses (CO₂ emission is reduced for 75 thousands tones per year), decrease of the heat production and distribution costs, increase of the quality of the services provided to the customers/Serbian citizens as well as to the overall stability of the DH systems.

Phase V

Aware of the importance of the Program and the necessity of further investments in the DH sub-sector, end of 2016, MoME and KfW have started activities on the preparation of the next, fifth Program Phase worth 32 mil EUR. As the result of those joint efforts, in the period December 2019 – April 2020, a set of documents, representing Project's legal base, is signed between the RoS and KfW. In addition, MoME has selected an international Consultant that shall support MoME and the participating DHCs with the Project realization. Despite the current situation, the Project has commenced on June 29, 2020 when the Kick of Meeting was held. Beginning of July, a delegation consisted of the representatives of MoME and the Consultant, has visited all the participating DHCs. The Consultant has just distributed the Inception Report Draft. It is expected that the Project shall be implemented until December 2024 and that 8 DHCs shall participate it. The environmental aspects of the Project shall be subject of special attention of all parties involved.

During all those years, the MoME had an extremely good cooperation with KfW as a reliable and experienced partner in the field of DH Systems.

D. Central Government buildings (Article 5)

Based on the proposal prepared by of the multispectral working group chaired by the Ministry of Mining and Energy and GIZ assistance, Government of Republic of Serbia has adopted decision 05 no. 337-6889/2018 on August 9, 2018 where:

- Default approach is chosen for the implementation of Art. 5 of EED, i.e. to rehabilitate annually 1% of the total floor area of heated and/or cooled buildings owned and occupied by central government (CGB).
- Inventory (list) of CGB comprises 56 buildings with overall area of around 412.000 m².

During 2019 GIZ has provided technical assistance for development of the draft of CGB rehabilitation Programme. Implementation of the part of the Programme (up to 28 of 56 buildings) will be implemented through CEB funded project mentioned above.

E. Energy efficiency obligations (Article 7)

Concerning the Decision of the Ministerial Council of the Energy Community D/2015/08/MC-EnC of 16 October 2015, in January 2020 Ministry of Mining and Energy delivered Notification of the Republic of Serbia on the implementation of the Article 7 of Directive 2012/27/EU on energy efficiency. Notification foresees that savings will be achieved through following alternative measures:

Measure (Third NEEAP references)	Year initiated	2017	2018	2019	2020	Total	% of target
Energy Management System Obligation (PC4 / I1)	2017	24.95	24.95	24.95	24.95	99.80	31.4%
	2018		24.95	24.95	24.95	74.85	23.6%
	2019			20.07 ¹	20.07 ¹	40.13	12.6%
	2020				20.07 ¹	20.07	6.3%
IFI support (HH1 / PC1 / I2)	2017	12.93	12.93	12.93	12.93	51.72	16.3%
	2018		13.30	13.30	13.30	39.91	12.6%
	2019			12.99	12.99	25.97	8.2%
	2020				12.99	12.99	4.1%
Budget Fund for Energy Efficiency	2017	0.57	0.57	0.57	0.57	2.28	0.7%
	2018		0.20	0.20	0.20	0.59	0.2%
	2019			0.51	0.51	1.03	0.3%
	2020				0.51	0.51	0.2%
Total						369.85	116.5%