First Annual Report
under the Energy Efficiency Directive

REPUBLIC OF MACEDONIA

June 2017

A. National energy efficiency target for 2020

These are the achieved energy savings in 2015, as well as information of the national energy efficiency targets that Republic of Macedonia have adopted in the 3rd National Energy Efficiency Action Plan.

R. MACEDONIA TARGETS	2015	2016	2017	2018	2019	2020
BUILDINGS [ktoe]	18,90			34,28		
INDUSTRY [ktoe]	22,20			41.37		
TRANSPORT [ktoe]	19.52			42.67		
OTHER [ktoe]	20,35			30,38		
ARTICLE 3 [ktoe]	80,97			148,72		226,27
ARTICLE 5 [ktoe]	7,94			10,65		
ARTICLE 7 [ktoe]	0,00		6,3	12,60	21,4	30,20
FEC [ktoe]	1.851,00			1.944,00		2.093,00
PEC [ktoe]	2.678,00			2.800,00		3.014,00

Figure 1: Division of targets per sectors and per different articles of EED.

B. Key statistics data

According to Article 24(1) of the EED for monitoring of the progress towards national 2020 targets in the table below are given the official statistical information for 2015 for the Republic of Macedonia.

Estimation of key statistics related to energy consumption in 2015	Value	Unit
Total primary energy consumption (*)	2678	ktoe
Total final energy consumption (*)	1.851,00	ktoe
Final energy consumption – Transport (*)	19,52	ktoe
Final Energy consumption – Industry (*)	22,20	ktoe
Final energy consumption – Households (*)	18,90	ktoe
Final energy consumption – Services (*)	20,35	ktoe
Gross value added by sector – Industry (**)	11.8	%

Estimation of key statistics related to energy consumption in 2015	Value	Unit
Gross value added by sector – Services(**)	54.2	%
Disposable income of households (**)	340 132	Total disposable household income 2013-2015 - annual average per household in denars(61.6=1eur)
Gross domestic product (GDP) (**)	8014,9 Or 9 061	Chain linked volumes (2010), million euro (for 2015) Or in million Euros (at current exchange rate)
Electricity generation from thermal power plants(***)	3434	GWh
Electricity generation from combined heat and power(***)	183	GWh
Heat generation from thermal power generation (***)	36.88	ktoe
Heat generation from combined heat and power plants, incl. industrial waste heat (***)	9.2	ktoe
Fuel input for thermal power generation (***)	977.8	ktoe
Passenger kilometres (pkm), if available(**)	2 251 509	
Tonne kilometres (tkm), if available(**)	278000	
Combined transport kilometres (pkm + tkm)(**)	2529509	
Population(**)	2 071 278	

Table 1: Key energy statistics data.

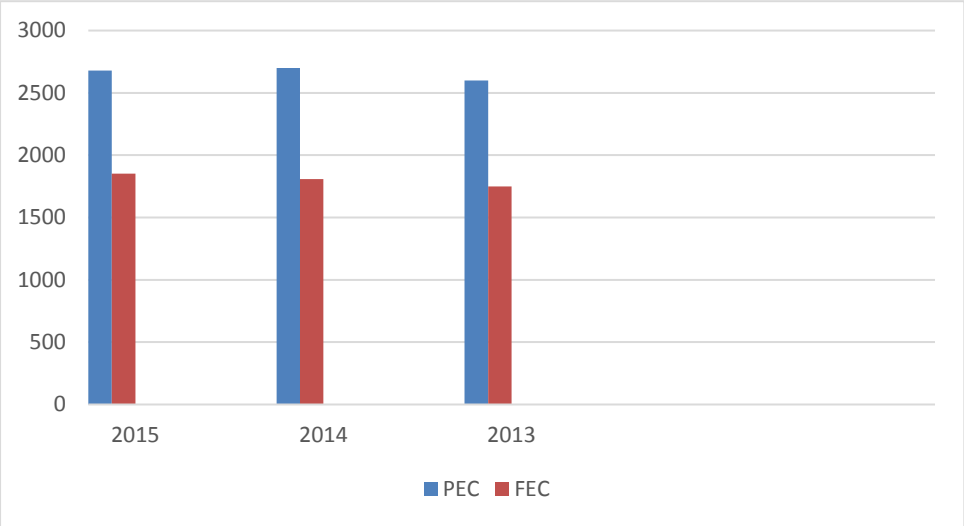
(*) Energy statistics

(**) State Statistical office

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

C. Overview of energy consumption trends

In the charts below are given the official statistical information for 2015, 2014 and 2013 for the primary and final energy consumption in the Republic of Macedonia.



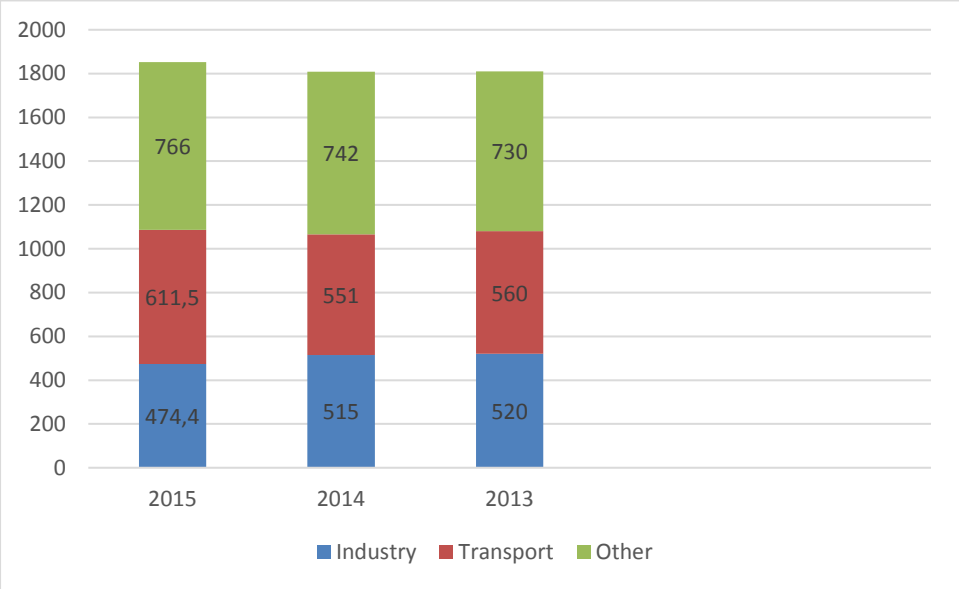


Figure 2: Final and primaryenergy consumption (top) and final energy consumption per sectors (bottom) in ktoe.

D. Update of measures implemented in last year

- **Legislative measures**

The Government of the Republic of Macedonia in July 2017 adopted the Third Energy Efficiency Action Plan for the period 2016 to 2018 (hereinafter the Third EEAP). The third EEAP is sent to the Energy Community in Macedonian language.

National framework for end-use energy savings, adopted with second EEAP is 80.06 ktoe by 2015. Based on the analysis of the achieved energy savings, which are based on available statistical data, it was determined that in 2015 the planned targets were achieved.(80.97ktoe or 101%).

The third EEAP envisages that the national indicative target of at least 9% will be achieved in the Republic of Macedonia, there is a possibility of achieving savings of 9.09%, which represents energy savings of a total of 148.72 ktoe by 2018.

The process of transposition of the Energy Efficiency Directive has been started. Namely, in cooperation with the Secretariat of the Energy Community, a new approach has been adopted to develop a new Law on Energy Efficiency. For this purpose, the Secretariat prepared a model of a new Law on energy efficiency in English and submitted it to the Ministry. The same in cooperation with USAID has been translated. For the purposes of transposition of the Directive into the new law, the Ministry of Economy established a working group composed of representatives from the competent ministries, the Energy Agency, the Energy Regulatory Commission and representatives from the donor institutions. The working group in October 2017 began to hold meetings. For the purposes of transposition of this Directive, the Ministry uses technical assistance from the following donors: UNIDO-GEF, REC for the transposition of Articles 7, 8 and 16, IME- Swiss Agency of Cooperation for Article 18 and USAID - for the transposition of the remaining Articles and the adoption of by-laws.

The Energy Performance of Buildings Directive is partially transposed in the existing Energy Law, the Rulebook on Buildings and the Rulebook on Energy Audits. The Ministry of Economy plans to request technical assistance through the Energy Community Secretariat for the call from REEP + to be published in November for the completion of the Rules for Buildings.

Details of the inspection capacity to implement this element of the acquis.

Regarding the existing legal solution for the supervision over the implementation of this part of the acquis, at this point it can be concluded that it should be completely reevaluated from the aspect of the legal competencies compared to the implementation capacities

- **Non-legislative measures**

Since 2007, Government adopted a annual Program for 2017 for reimbursement of part of the expenses for purchased and installed solar thermal collector systems in households for with financial support from the State Budget in the amount around 16,000,000 denars (250,000 euros). This incentive provide a refund of part of the funds spent on providing solar thermal collector systems. The implementation of this program allows saving electricity, promotions of RES, public awareness and environmental protection. So far (including 2017)more than 5441 households has been subsidized in amount of 997.000EUR with energy savings of around 8.66GWh per annum.

In October 2016, Government adopted a Programme for reimbursement of the costs for purchased and installed solar thermal collector systems in households and for reimbursement of the cost of purchased and installed PVC or aluminium windows in households for 2017, with financial support from the State Budget in the amount of 42,000,000,00 denars (EUR 700.000). Around 2200 requests were submitted to the Ministry with total window area of 10.000m2 , of which around 1400 persons will be reimbursed .

In November 2017 the City of Skopje, in order to encourage citizens to use renewable energy sources to heat their homes, which minimally polluting the air and the soil and do not affect climate change, implemented the measure to subsidize or provide a refund of part of the spent funds for pellet stoves to the exhaustion of the budget for that purpose 10 million denars (around 166.000EUR) approximately 340 persons will be reimbursed .

Within the Project for investment in clean energy, trainings on procedures for investment in renewable energy sources for municipalities were conducted. These trainings are very important for municipalities since they are the direct implementers of policies and procedures in the field of investment in renewable energy.

Horizon 2020 - Framework programme for research and innovation 2014-2020

1.The Cool Heating project promotes the implementation of "small modular renewable heating and cooling grids" for communities in South-Eastern Europe.

The objective of Cool Heating is to support the implementation of "small modular renewable heating and cooling grids" for communities in South-Eastern Europe. Cool Heating transfers knowledge from partners in countries where renewable district heating and cooling examples exist (Austria, Denmark, Germany) to countries where there are less examples in the sector (Croatia, Slovenia, Macedonia, Serbia, Bosnia-Herzegovina). Core activities, besides techno-economical assessments, include measures to stimulate the interest of communities and citizens to set-up renewable district heating systems as well as the capacity building about financing and business models. The outcome is the initiation of new small renewable district heating and cooling grids in 5 target communities up to the investment stage.

2. The objective of the BioVill project is to transfer and adapt experiences gained in countries where bio energy villages already exists (Germany and Austria) to countries with less examples in this sector (Slovenia, Serbia, Croatia, Macedonia and Romania). The project fosters the development of the bio energy sector in selected target countries by strengthening the role of locally produced biomass as a main contributor for energy supply on local level, considering opportunities of market uptake or expansion for local farmers, wood producers or SMEs.

Core activities of BioVill include the technological and economic assessment of the target villages, the involvement and active participation of stakeholders and citizens, the development of local bio energy value chains and technologies, as well as capacity building about financing schemes and business models. The outcome of BioVill is the initiation of five bio energy villages in Slovenia, Serbia, Croatia, Macedonia and Romania up to the investment stage.

BioVill is a three years project supported by the European Union's Horizon 2020 program. The project started in March 2016 in collaboration with 9 partners from the target countries, as well as from Germany and Austria.

3. The overall objective of multEE is to improve the consistency and quality of energy efficiency policy planning and implementation through innovative monitoring and verification schemes as well as through improved coordination between different administrative levels.

In order to reach this goal, two sub-goals will have to be achieved:

1. Introducing innovative monitoring and verification (M&V) schemes. These schemes are based on bottom-up data to ensure that the impact of energy efficiency measures is correctly evaluated and useable for future energy efficiency planning.
2. Improving vertical coordination between administrative levels. The objective here is to exploit the full potential of the integrated M&V schemes developed in multEE and improve the overall quality of energy efficiency planning

A step-by-step approach is adopted to reach both goals. First of all, European best practices will be mapped and analyzed. Then, a best practice case model will be developed and adapted to the specific needs of each partner country. At the same time, the necessary capacities will be built, considering the transferability of results to all interested countries.

The MVP system is transferred to the servers of the Ministry of Economy. Further activities in establishing sustainability of tool, organizing trainings for users as well as drafting sub-laws for usage are in negotiations to be undertaken by GIZ ORF EE.

E. Central Government buildings (Article 5)

The total building floor area of the buildings with a total useful floor area over 500 m2 and as of 01 January 2019, over 250 m2 owned and occupied by the Contracting Parties' central government that, on 1 January of the year in which the report is due, did not meet the energy performance requirements referred to in Article 5(1).

The total building floor area of heated and/or cooled buildings owned and occupied by the Contracting Parties 'central government that was renovated in the previous year referred to in Article 5(1) or the amount of energy savings in eligible buildings owned and occupied by their central government as referred to in Article 5(6).

Article 5 of EED provides the choice between two different options in expressing the targets regarding this article. Contracting Parties should express which option has been chosen and to provide data accordingly.

EED offers a choice of two methods to meet the obligations of Article 5. The main obligation is laid down in Article 5(1) as 'default' and the 'alternative' approach/obligation in Article 5(6). The fulfillment of either obligation is expected to lead to an equivalent targeted improvement in the energy performance of buildings and the chosen approach will mainly determine only the manner in which this target is reached.

In the next coming period the Macedonian government will decide which approach will be followed pursuant to the provisions in the EE Law. However, the recommendation will be given for the preparation of the inventory of the central governmental buildings.

If Macedonia chooses to use standard values for the calculation of the 'alternative' energy saving target as foreseen in Article 5(6) second subparagraph the elements provided by the EPBD and the associated cost-optimal methodology will be used, such as:

Types of reference buildings,

Reference values for energy consumption of each type of reference building before renovation,

Reference values for cost-optimal energy consumption of each type of reference building with the defined energy efficiency measures applied.

The MoE has also sent the project proposal for donor assistance to the project SECO and there are ongoing activities about this issue. The purpose of the request is to prepare the Strategy for renovation of buildings in residential sector and

building of public institutions. Based on data collected preparation and categorization of residential building (by using (TABULA) of the mentioned Strategy should commence. Based on this Strategy programs for the renovation of public buildings will be prepared.

Within the strategy opportunities for increased utilization of local renewable energy sources should be included.

F. Energy efficiency obligations (Article 7)

Energy savings achieved through the national energy efficiency obligation schemes referred to in Article 7(1) or the alternative measures adopted in application of Article 7(9).

Article 7 of EED allows using the energy efficiency obligations schemes, alternative measures or any combination. In this section the elaboration of functioning of the EEO or explanation of categories of alternative measures which lead to corresponding savings.

No obligation has been placed to date on energy companies regarding reducing final end-use energy consumption in Macedonia. At this stage the indicative target of cumulative energy savings by 2020 will be provided, based on the Macedonian energy balances for years 2012, 2013 and 2014. Within this section, the simplified analysis(NEEAP) is conducted for preliminary estimation of electricity price increase in case that the all obligations arising from the Article 7 are implemented via utility obligation schemes.

Based on the data on implemented projects since December 2008, it is estimated that Macedonia fulfills this criterion and that the targets may be set according to paragraph 2. Instead of fixed 0.7% target in four years' period, mentioned in the first paragraph, Macedonia will opt for the 0.5% targets in years 2017 and 2018, and 0.7% targets in years 2019 and 2020.

Also the GEF-UNIDO Project, as part of its policy component, organized and held a Workshop on art. 7, 8 and 16 of the EED in April 2017; in the next period, the project staff got continuously engaged and provided input to the Working Group, with the aim to develop an energy efficiency law that is effective and feasible to implement by Macedonian institutions and other stakeholders, including industry.

Following the receipt of the framework energy efficiency law, the GEF-UNIDO project has been asked by the Ministry of Economy to continue its support and technical assistance to the Ministry of Economy in the EED transposition process as part of the work under its policy component, which covers policy and institutional frameworks for the promotion and implementation of energy management systems in

line with ISO 50001 standard in industry and possibly in commercial and public sectors.