



# The potential for investment in energy efficiency through financial instruments in the European Union

Bulgaria in-depth analysis

May 2020



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## Objective of the document

The objective of this report is to give an overview of the state and progress of energy efficiency developments in Bulgaria, and a preliminary assessment of investment needs and potential use of ESIF financial instruments to cover them. This report would serve as an input to the negotiations of operational programmes for the period 2021-2027.

This document is based on data and information released prior to the outbreak of the Coronavirus (COVID-19) pandemic. Although it is still not possible to properly estimate the impact of COVID-19, a severe economic recession is currently (May 2020) forecasted for year 2020 in the European Union (EU).

The recession may have deep repercussions in the years to come in the economic and financial systems of EU Member States (MS), therefore the economic and financial context reported in the document may sharply deteriorate in the near future. Cohesion Policy resources, and public resources in general, are expected to play a crucial role to support the economic recovery in the next programming period.

Energy efficiency (EE) investments can play an important role to support the economic recovery, as (i) they have a considerable job creation effect; (ii) they contribute to reduce energy costs and greenhouse gas emissions; and (iii) they increase MS energy security.

There is a risk that, at least in the short run, the crisis will lead to lower energy costs due to a lower demand, thus can create lower incentives for EE investments. An appropriate use of financial instruments to support EE investments enables the use of Cohesion Policy resources in a revolving way and to generate leverage by crowding-in private co-financing in order to meet significant investment needs.

Information reported in the following sections is based on publicly available sources, in particular:

- Eurostat national statistics;
- Odyssee database;
- Draft version of the National Energy and Climate Plan of Bulgaria 2019;
- Final version of the National Energy and Climate Plan of Bulgaria 2020;
- EC assessment of the draft National Energy and Climate Plan of Bulgaria;
- Investment Strategy for the Bulgaria Fund of Funds-Operational Programme “Regions in Growth”
- Odyssee-Mure, Energy efficiency trends and policies in Bulgaria
- Building performance Institute Europe (BPIE), Accelerating the Renovation of the Bulgarian Building Stock, 2016
- Building performance Institute Europe (BPIE), Implementing Nearly Zero-Energy Buildings in Bulgaria, 2012
- Ministry of Finance Bulgaria, Ex-ante Assessment and Strategy for the Effective Implementation of the Financial Instruments from the Operational Program Innovation and Competitiveness 2014-2020
- EU building stock observatory
- EU Energy Poverty Observatory Member State Report Bulgaria
- JRC Science for Policy Report, Accelerating energy renovation investments in buildings 2019



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- JRC Science for Policy Report, Synthesis report on the assessment of member states' building renovation strategies, 2016
  - European Commission-European Structural and Investment Funds-Bulgaria factsheet
  - Commission Staff Working Document Country Report Bulgaria 2019, Including in-depth review on the prevention and correction of macroeconomic imbalances
  - Commission Staff Working Document Country Report Bulgaria 2020
  - European construction sector observatory - Country profile Bulgaria 2018
  - National Energy Efficiency Action Plan 2014-2020-Updated 2017
  - World Bank, Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018
  - Allocation of Cohesion policy funding to Member States for 2021-2027. European Court of Auditors. March 2019
  - Commission staff working document. The EU Environmental Implementation Review 2019 Country Report Bulgaria 2019
  - Commission Spring 2020 economic forecasts

The following interviews were conducted:

- Fund manager for Financial instruments in Bulgaria-FMFIB
- Meeting with the Deputy Minister of Energy Stankov, Veneta Tzvetkova (Director, Energy projects and international cooperation directorate), Milena Evtimova (Chief Expert, Energy Projects and International Cooperation Directorate), Ivaylo Aleksiev (Executive Director, Sustainable Energy Development Agency), Momchil Vanov (CFO of the Bulgarian Energy Holding)
- Bulgaria geographic desk in DG Regional and Urban Policy



## 1. Context overview

Bulgaria has a population of about seven million inhabitants (1.4% of the EU27). However, it is important to note that Bulgaria has been experiencing a constant population decline over time (population reduced by more than 500 000 people or 6.63% in the last 10 years)<sup>1</sup>. This negative trend is expected to become less intense, but still it is foreseen that by 2035 the population will have dropped to six million inhabitants<sup>2</sup>.

Bulgaria's economy was severely influenced by the economic crisis after 2008. However, sound macroeconomic policies implemented in recent years combined with an increase in private domestic consumption have fuelled steady growth rates. Overall, Bulgaria's gross domestic product (GDP) increased by 66% between 2000 and 2015, but only 3.4% above the pre-crisis level of 2008, while GDP per capita is about EUR 7 800 (26% of the EU27 average) and remains the lowest in EU27<sup>3</sup>.

The economy experienced a strong growth in 2018 and 2019, however Bulgaria still faces challenges. More specifically, in addition to a reducing population, the country has been slow to catch up with the rest of the EU, with persisting regional and income inequalities and one of the highest levels of poverty<sup>4</sup>.

### Impact of the COVID crisis

Based on the European Commission 'Spring 2020 Economic Forecast', released in May 2020, due to the COVID-19 outbreak, Bulgaria will suffer a sharp recession in 2020 with the **GDP expected to contract by 7.2%**, before rebounding and growing by 6% in 2021.

The **unemployment rate** is expected to increase from 4.2% (2019) to 7.0% (2020) and it is expected to be 5.8% in 2021.

To support the national economy, a **Government deficit** of circa 2.8% is expected in 2020 GDP, to be then diminished in 2021 (1.8%).

Due to the combined impact of the decrease of the GDP and the increase in the government deficit, the **debt/GDP ratio is expected to increase to 25.5% in 2020** (it was 20.4% in 2019).

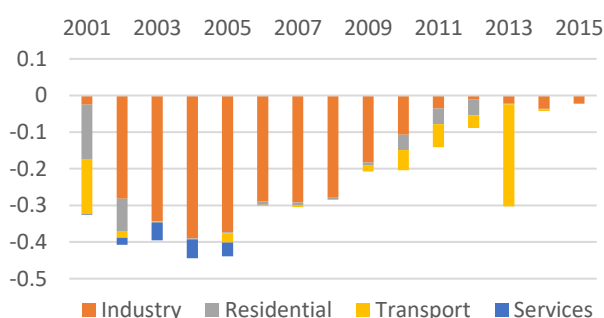
**Final energy consumption (FEC)** in Bulgaria in 2018 was 9.91Mtoe (1.0% of EU27 consumption)<sup>5</sup>. In the period 2008 to 2010, the FEC had a declining trend probably due to the financial crisis. As part of the process of recovery, the period 2013 to 2018 reported an increase of almost 13% reaching the FEC level of 2005. It is important to highlight that while the number of dwellings has remained the same between 2005 and 2016, the number of people living in the country is steadily reducing (700 000 fewer people in 2019 than in 2005).

**Consumption per capita** (1.41toe/person) is 37% lower than the EU average (2.2 toe/person) however, while this rate has a declining tendency in the EU as a whole in the last ten years, in Bulgaria it increased by 6% (while at the EU27 level it decreased 7%).

**Energy productivity** (GDP over the gross available energy) is 2.35 Euro per Kg of oil equivalent (the lowest in EU), showing a strong reliance on energy to generate GDP (this index increased of 3% in the last 5 years).

**Sectors** contributing to final consumption are: transport (3.3 toe/person - 34% of total), industry (2.7 toe/person - 28% of total), households (2.2 toe/person - 23% of total), and services (1.2 toe/person - 12%)<sup>6</sup>. The building

### Annual technical energy savings by sector (Mtoe)





sector (residential and non-residential) accounts for about 23% of the final energy consumption with remaining high energy saving potential. Regarding energy efficiency (EE), during the 2001-2016 period, Bulgaria reported about 0.29 Mtoe of cumulative (technical) final energy savings<sup>7</sup>, which implies a very poor performance.

## 1.1 Overview of the residential sector

The stock of dwellings<sup>8</sup> in Bulgaria amounts to 3.1m. More specifically:

- The total building floor area in the country is 262m sq.m. of which 212m sq.m. correspond to the residential sector<sup>9</sup>;
- The majority of dwellings (about 1.8m) are detached single family homes<sup>10</sup> with 66% of them located in rural areas;
- 91% of dwellings were built before 2000;
- About 70 000 buildings are multi apartment buildings, and 96% of those are built in urban areas;
- About 500 000 buildings remain inhabited in the country<sup>11</sup>;
- About 68% of residential buildings were built after the second world war and during the communism era;
- As a result, the quality of insulation is very low. About 22% of residential buildings are made with external walls from prefabricated elements<sup>12</sup>.

One of the main challenges related to the residential building stock in the country is the poor state of the prefabricated multi-family buildings dating from the communist era. It is indicative that these buildings have an energy consumption at least twice as high as buildings built to current standards<sup>13</sup>. These buildings are in very poor condition, and over time there have been no plans for maintaining and replacing their infrastructure. One of the main barriers proved to be the lack of organisation of home owners associations, and the inability to enforce the obligations of owners as defined by relevant laws (more details provided later on in the report).

Bulgaria developed the third national Energy Efficiency Action Plan (NEEAP) 2014-2020 in order to set the framework and achieve two specific targets for 2020 namely (a) achieving energy savings of 25% and (b) reducing energy intensity by 41% compared to 2005. In order to achieve these targets, the State launched in 2005 a National Programme for Energy Efficiency in Multi-Family Buildings. This programme, with a total budget of EUR 1bn, provided a 100% grant for building renovation targeting initially the prefabricated multi apartment buildings. In 2016, the programme was expanded to include other residential buildings as well. As a result of this programme, more than 2 000 buildings were or are being renovated, out of more than 5 000 applications. The renovated buildings correspond to 11.4m sq.m. of floor area, close to 150 000 apartments with more than 340 000 residents. According to the World Bank, the programme has been successful.

Regarding new buildings, according to the figures, the construction of new dwellings seems to remain fairly stagnant. In fact, the Bulgarian construction sector is still suffering from the effects of the crisis. The employment rate in the sector recorded a 15% decline between 2010 and 2015 and this was accompanied by a 21% drop in construction of buildings<sup>14</sup>. Prior to the beginning of the COVID-19 crisis, the prospects for the construction sector seemed to be improving due to the pick-up of domestic consumption and the remaining low mortgage interest rates, however the impact of the COVID-19 driven recession could lead to another decline of the of the housing market.

Regarding energy consumption in the residential sector, it is important to highlight again the fact that the majority of dwellings consist of detached houses located in rural areas. This facilitates the tendency for 34% of dwellings being heated with the use of wood. Another element to consider is the high rates of poverty still existent in the country as compared to other EU countries

Further information on residential buildings energy consumption is provided below:

- Households<sup>15</sup> are responsible for 2.2Mtoe (1% of EU28) or 23% of the national consumption<sup>16</sup> (in 2018);

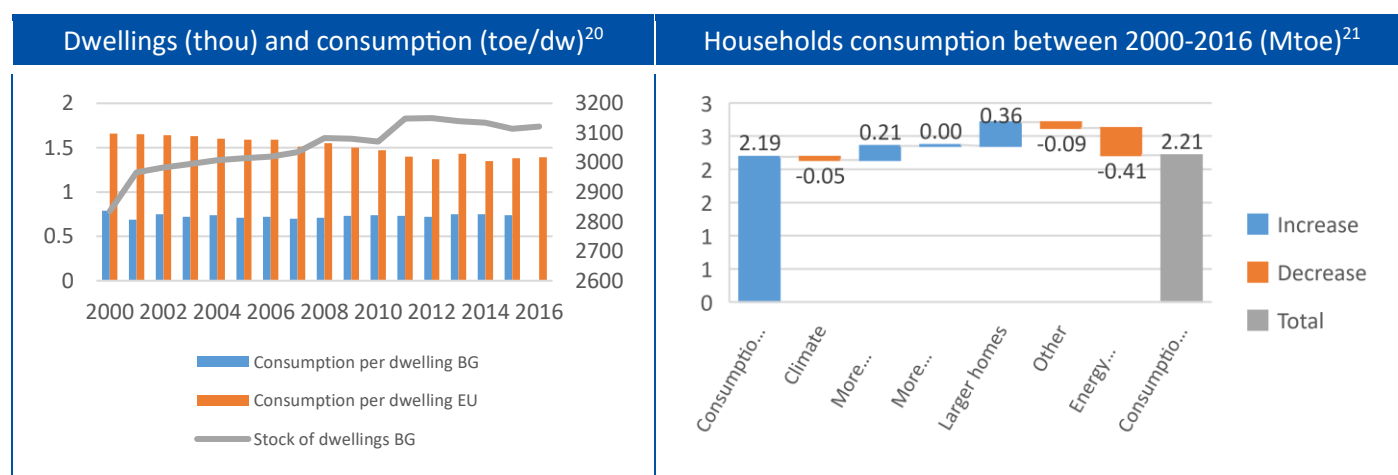


- Consumption per dwelling is 0.74 toe (53% lower than EU average)<sup>17</sup>;
- Consumption has remained at the same levels in the last 10 years;
- The residential building stock is the third largest consumer of energy.

In 2016, the number of newly built dwellings decreased by 8%, but from mid-2017 construction of residential buildings has picked up again especially in the large cities (Sofia and Plovdiv)<sup>18</sup>. Moreover:

- The potential for EE in the residential sector is very high since the building stock is old and poorly insulated;
- Especially the pre-fabricated multi apartment buildings have the highest potential for improvements;
- A characteristic of energy use in households is the very low use of natural gas at below 5% compared to 55% average in Europe;
- According to Odyssey-mure methodology, the improvement in EE in households has been minimal between 2000 and 2015<sup>19</sup>.

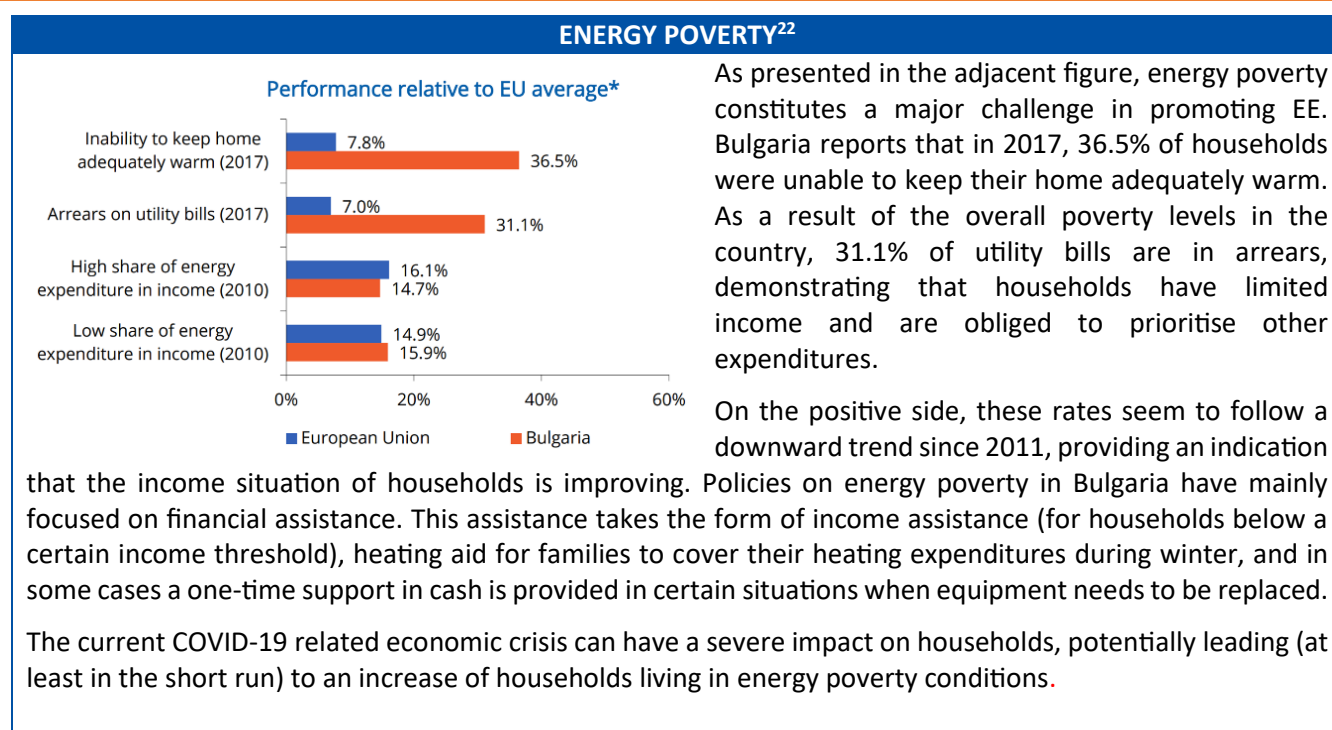
As seen in the graphs below, both consumption and number of dwellings has remained at the same levels between 2000 and 2016. However, it is important to highlight again that the population is gradually but steadily decreasing during this period. Moreover, due to the crisis, renovation works were postponed with families having to deal with other priorities. As such, the potential for the renovation of buildings is very wide. Taking into account the positive forecasts for the economy, and the overall recovery process having improved the income situation of families, an increase in the construction activities could be expected.



According to the NECP, Bulgaria is currently developing a long term strategy to support the renovation of the national stock of residential and non-residential buildings. It was mentioned during a meeting with public officials that the EBRD is providing technical support to the Ministry of Energy to finalize this exercise by the end of March 2020. Investment needs estimated to achieve the targets in the residential sector are provided later on in the report.

The COVID-19 related economic crisis could have significant negative impacts on the building sector, thus slowing down the building construction/renovation activity, at least in year 2020. Detailed information in this respect are currently not available.





## 1.2 Overview of the public sector

According to the National Energy Efficiency Action Plan 2014-2016, Bulgaria is following obligations arising from the EU Directive on EE including in public buildings. More specifically, measures are being implemented to renovate public buildings used by the central government, regional administrations, and other public bodies. The building stock targeted by these measures is composed of 2 329 buildings.

From this building stock, only 662 buildings are certified as per their energy class. Only 150 buildings meet the minimum energy requirements. The renovation of this building stock is expected to produce substantial savings. As such, the potential from the renovation of public buildings is very wide.

## 1.3 Overview of services and industry sectors

The **services sector** account for about 60% of the national GDP<sup>23</sup> while its energy consumption in 2018 was 1.2Mtoe (0.9% of EU28) increasing over time. In fact, Bulgaria has been steadily becoming a service based economy since 1991. As a result, the added value of the sector in the economy is constantly growing as well as its contribution to energy consumption (46% increase since 2005, 25% in the last ten years) with 20% increase in the last 5 years (0.3% in EU28). Although the service sector was also affected by the crisis as all sectors of the economy (decrease of value added between 2008 and 210), the impact of the crisis did not reverse the overall trend related to energy consumption. The later continued to increase by almost 20% in the last 5 years.

The **industrial sector** accounts for 24% of the national GDP and in 2018, industry consumed 2.7Mtoe (1.1% of EU28). It is important to mention that Bulgaria, as many former communist countries underwent a transition from a primarily industrial economy to a service based economy. As a result, the final energy consumption in industry is gradually reducing, with 25% since 2005 and 20.9% in the last ten years. However, an increase is reported in the last five years of 5.2% which can be attributed to the recovery of the country from the financial crisis<sup>24</sup>.





## 2. EE targets, measures in place and proposed

During a meeting with the administration of the Ministry of Energy, in early February, it was communicated to the EIB team that the indicative reduction target for 2030 is 27.89% for primary energy and 31.67% for final energy consumption. Moreover, it was stated that a main component of this effort is going to be the national strategy for the renovation of the building stock which should be finalised at the end of March 2020. These targets were confirmed by the final version of the NECP released in March 2020.

NECP	EE targets (Mtoe)	2018	Target 2020	Target 2030
overall targets	Primary energy consumption	18.36	18.52	17.46
	Final energy consumption	9.91	9.98	10.32

The main bulk of measures mentioned in the NECP originate from the National Energy Efficiency Action Plan 2014-2020. The framework for the period 2014-2020 was based on the EE obligation schemes in place as well as so –called alternative measures such as imposed energy taxes, definition of standards and norms for EE, energy labelling schemes, and several training and education programmes (more measures mentioned below).

In addition, financing schemes primarily targeting multi apartment buildings and public buildings were put in place.

Regarding the period 2020-2030, according to the Ministry of Energy, efforts will continue to renovate the national building stock. In addition, measures will aim at deploying smart systems and digitalisation in the construction sector. More efforts will also be placed on promoting energy audits and the involvement of ESCOs in the market.

The final NECP<sup>25</sup> refers also to the following measures:

- The continuation of the grant programme targeting the renovation of multi apartment buildings
- An additional grant programme financed by the state budget and ESIF and specifically from the OP Environment targeting all sectors including households, public buildings, industry and services. The NECP refers to a grant intensity ranging from 50% to 100% and a total budget of circa EUR 700m. This programme is supposed to cover the period from 2020 to 2031 thus involving ESIF from the current and the next programming periods.
- The NECP also refers to the creation of a financing mechanism refers to as National Energy Efficiency Financing Mechanism. According to the NECP, this mechanism will implement financial instruments and will leverage funds from diverse sources and programmes including ESIF, Just Transition Fund, InvestEU and IFIs. An indicative budget of EUR 4bn is mentioned but without providing further information. This mechanism was not mentioned during interviews with the Ministry of Energy or FMFIB.

In the following table, information regarding main measures for the residential, industry and public sector are presented.



		Context/targets	Existing and planned actions/priority objectives
Residential Sector	•	<ul style="list-style-type: none"> <li>The main driver of policies in Bulgaria for the residential sector is the obligation scheme and the national efficiency program for multi-family buildings</li> <li>Bulgaria does not yet have a long term strategy for the renovation of residential and non-residential buildings</li> </ul>	<p><u>Existing measures:</u></p> <ul style="list-style-type: none"> <li>In the context of decarbonisation, motives are provided for the gasification of households (In Bulgaria one of the lowest rates in the EU).</li> <li>Measures are also taken to motivate the installation of solar roofs on buildings. It is important to note that Bulgaria has a target to produce 25% of energy consumption from renewables by 2030.</li> <li>On the financing side, the national efficiency programme for multi-family buildings provides grants of 100%.</li> <li>The EBRD has been implementing in Bulgaria a programme called Residential Energy Efficiency Credit lines for several years supporting homeowners and homeowners associations in improving EE. The scheme is a combination of credit lines to banks and grant payment to the beneficiaries.</li> <li>Also, the Energy Efficiency and Renewable Sources Fund (financed by the government and other international donors) provides preferential loans to households for EE improvements</li> </ul> <p><u>New planned measures/priority objectives (NECP):</u></p> <ul style="list-style-type: none"> <li>The renovation of the residential building stock will continue based on the existing programme for multi apartment buildings</li> <li>However, there is the intention to move towards lower grant intensive schemes</li> <li>Obligation schemes will be updated</li> <li>More efforts are foreseen in promoting labelling and certifications for buildings</li> </ul>
Industry	•	<ul style="list-style-type: none"> <li>EE in industry and specifically SMEs has been promoted by grant schemes and financial instruments financed by ESIF and institutions such as EBRD</li> </ul>	<p><u>Existing measures:</u></p> <ul style="list-style-type: none"> <li>Investment support (ESIF) was provided to large companies under the grant scheme 'Investments in green industry' for projects directly related to the reduction of energy and resource intensity</li> <li>Mandatory energy audits of all enterprises which are not SMEs</li> <li>Financing is provided through the OP Innovation and Competitiveness for EE improvements in the form of grants to SMEs</li> <li>The EBRD programme is also financing SMEs</li> <li>The Energy Efficiency and Renewable Sources Fund is mostly targeting SMEs and industry in general</li> <li>There is accumulated experience with the use of financial instruments to support investments for SMEs in the last years. From JEREMIE in the previous period to FMFIB instruments in the current period, several financial instruments have supported EE investments</li> </ul>



			<p><u>New planned measures/priorities (NECP):</u></p> <ul style="list-style-type: none"> <li>• The financing schemes described above are expected to continue however according to interview with FMFIB, a financial instrument under OPIC is also being set up in order to support projects of SMEs in diverse priorities but also including EE</li> </ul>
Public Sector	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• More than 2 000 buildings are targeted by support measures</li> <li>• A small portion of public buildings have energy certifications and only 150 buildings meet the minimum energy requirements</li> </ul>	<p><u>Existing measures:</u></p> <ul style="list-style-type: none"> <li>• Bulgaria has developed a list of buildings to be renovated and the respective energy savings foreseen.</li> <li>• The owners of these buildings (respective ministries or public bodies) are under scrutiny to follow the annual renovation obligations</li> <li>• Financing is available for municipalities through the OP Regions in Growth in the form of grants</li> <li>• Also, the national entity called FLAG specializes in providing loans to municipalities including for EE projects.</li> </ul> <p><u>New planned measures/priorities (NECP):</u></p> <ul style="list-style-type: none"> <li>• Efforts will continue with the renovation of the building stock</li> <li>• Since recently, a financial instrument is also being implemented through FMFIB with ESIF from OP Regions in Growth</li> <li>• FMFIB is expressing the conviction that more financial instruments will be used in the next period to support the renovation of public buildings</li> </ul>



### 3. Market failures, main issues and barriers to investment

To the extent possible, the main potential implications of the COVID-19 crisis on barriers to EE investments have been considered.

	Financial issues	Non-financial issues
<b>Residential Sector</b>	<ul style="list-style-type: none"> <li>• One of the highest rates of non-performing loans in the EU which includes mortgages.</li> <li>• High poverty rates in the country implying liquidity constraints for families</li> <li>• Limited access to bank finance for families already in debt</li> <li>• High transaction costs and lack of delivery mechanisms for thermal refurbishments<sup>26</sup></li> <li>• The COVID-19 crisis could have a further negative impact as it could reduce further households' disposable income/ financial resources.</li> <li>▪ Due to the uncertainty about future economic conditions, generated by the COVID-19 crisis, households may decide to postpone long-term investments, such as EE renovations</li> </ul>	<ul style="list-style-type: none"> <li>• Poor organisation of home owners associations in multi apartment buildings and inability to make collective decisions</li> <li>• According to the relevant regulation, 67% of apartment owners need to agree to form an association and 100% to conduct a renovation</li> <li>• Inherited tendency to neglect maintenance in multi apartment buildings<sup>27</sup></li> <li>• Very high percentage of single family houses in rural areas where wood is the predominant heating method</li> <li>• Low awareness of the benefits of EE</li> <li>• High rate of mixed buildings with residential and non-residential occupancies</li> <li>• Lack of properly functioning ESCO market</li> </ul>
<b>Industry</b>	<ul style="list-style-type: none"> <li>• 92% of companies are micro companies with very limited access to finance</li> <li>• High corporate debt<sup>28</sup></li> <li>• ESCO companies face serious liquidity problems</li> <li>• Banks requesting high collateral</li> <li>• The COVID-19 triggered economic recession will have a severe impact on enterprises that may have more difficulties to access the credit sector (due to the less performing economic and financial ratios)</li> <li>• Due to future uncertainty, enterprises may moreover reduce further their investment plans and they could postpone non-core investments</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information on EE and low awareness on the impact of EE</li> <li>• Limited access to skilled workforce<sup>29</sup></li> <li>• High percentage of companies are in the service sector rather than manufacturing.</li> <li>• Limited access to new best practice in EE. Outdated technology.</li> <li>• Small size of projects with high transaction costs</li> </ul>
<b>Public Sector</b>	<ul style="list-style-type: none"> <li>• Regulatory limits to borrowing capacity of municipalities and other public entities prevent from investing in EE related measures in forms different from grants</li> </ul>	<ul style="list-style-type: none"> <li>• Political instability and often change of ministers</li> </ul>



## 4. Investment needs, gaps and implications for financial instruments

The final NECP is outlining the investment needs related to achieving the objectives, confirming the figures that were provided to the EIB team by the Ministry of Energy during a meeting on 04.02.2020.

Investment needs (EUR m)	2021 - 2025	2026 - 2030	2021-2030
Industry	829.36	806.15	1,635.51
Residential	5,523.30	6,308.62	11,831.91
Services	2,216.95	2,023.33	4,240.28
Transport	3,677.95	5,365.29	9,043.24
Non-energy	141.66	91.84	233.50
<b>Total</b>	<b>12,732.24</b>	<b>14,713.47</b>	<b>27,445.71</b>
Electricity only plants	1,141.50	11,780.01	12,921.51
CHP and heat plants	92.08	56.06	148.15
Storage plants	-	620	620
Power to X plants	-	3.45	3.45
Grid investments	747.99	839.04	1,587.03
<b>Total</b>	<b>1,981.57</b>	<b>13,298.56</b>	<b>15,280.13</b>
<b>Grand Total</b>	<b>14,713.81</b>	<b>28,012.04</b>	<b>42,725.85</b>

The final NECP provides an additional breakdown of investment needs for EE improvements for households and the service sector as per below

Investment needs (EUR m)	2021 - 2025	2026 - 2030	2021-2030
<b>Households</b>			
Equipment	5,289.37	5,285.39	11,274.76
Direct investment in efficiency	233.93	323.22	557.15
<b>Total</b>	<b>5,523.30</b>	<b>6,308.62</b>	<b>11,831.91</b>
<b>Services</b>			
Equipment	2,133.42	1,968.26	4,101.68
Direct investment in efficiency	83.53	55.07	138.60
<b>Total</b>	<b>2,216.95</b>	<b>2,023.33</b>	<b>4,240.28</b>
<b>Grand Total</b>	<b>7,740.25</b>	<b>8,331.94</b>	<b>16,072.20</b>

Taking into account the tables above and the information provided in the previous section, the possible implications for financial instruments are outlined below.

### Horizontal implications for financial instruments

- The country still has a high percentage of non-performing loans and poverty rates which could affect the implementation of financial instruments
- The financial crisis affected most stakeholders and although the situation has largely improved, there is still a lack of liquidity in the market.
- Although not specifically targeted at EE, there is accumulated experience in the use of financial instruments in the country that can be used at targeting EE
- However, it needs to be taken into account that the availability of 100% grants for building renovations has created a grant culture and expectations that this will continue in the future



<ul style="list-style-type: none"> <li>There is still very low awareness of the benefits of EE improvements and low capacity in the market. Further capacity building but also technical assistance in the use of financial instruments could be beneficial at all levels of set up and implementation, including public authorities, financial intermediaries and final recipients/project promoters.</li> </ul>		
Residential sector	Public sector	Industry
<ul style="list-style-type: none"> <li>There is no implementation experience in the sector with dedicated financial instruments due to availability of grant programmes</li> <li>Implementing an financial instrument for residential sector would require an update of the regulation regarding the obligations of home owners and the framework related to home owners associations</li> <li>Technical support would be necessary to support the renovations of multi apartment buildings. The lack of such support in the relevant grant programme was the cause of low quality or less ambitious renovations in several buildings<sup>30</sup>;</li> <li>Financial instruments could support innovative financing solutions (e.g. <b>ESCO model</b>), not developed in the residential sector also due to the reluctance of banks to finance them (mainly due to risk)</li> </ul>	<ul style="list-style-type: none"> <li>Lists of buildings requiring renovations are available and could serve as a potential pipeline for a financial instrument</li> <li>Further technical support would be required to help prepare this pipeline</li> <li>A financial instrument is already available targeting EE in public buildings through FMFIB while experience has also been gained through JESSICA and FLAG</li> <li>Financial instruments could support the <b>development of the EPC model</b> in the public sector, providing <b>technical support and financial support</b> both directly to Public Sector Entities (e.g. municipal lending) and to private or public-private entities (loans and/or equity financing).</li> </ul>	<ul style="list-style-type: none"> <li>A financial instrument is currently being set up though FMFIB with funds from OPIC which will focus on SME financing with a component of EE (assuming that the financial instrument will not be cancelled or changed due to the COVID-19 crisis)</li> <li>There is already accumulated experience in the country in implementing financial instruments for SMEs and urban development</li> <li>Dedicated financial instruments for EE could also support the development of the EPC model in the industry sector and in the business sector at large</li> </ul>



## 5. ESIF resource, existing financial instruments and main grant programmes

**Bulgaria** has been allocated **EUR 9.88bn** in ESIF (total budget with national contribution EUR 11.73bn) in the current programming period 2014-2020. The ESIF funds are implemented through 10 national (thematic) programmes. The main OPs relevant to EE in buildings are the OP Innovation and Competitiveness (OPIC) with a budget of EUR 1.18bn, the OP Regions in Growth (OPRIG) with EUR 1.3bn and to a lesser extent the OP Environment (OPE) with EUR 1.5bn<sup>31</sup>.

In terms of ESIF allocations by themes which are relevant to EE, the breakdown is the following:

- Environment, protection and resource efficiency: EUR 2.2bn
- Low-carbon economy: EUR 1.4bn
- Competitiveness of SMEs: EUR 1.2bn
- Climate change adaptation and risk prevention: EUR 0.6bn

### 5.1 Financial instruments

Bulgaria has been accumulating experience in the implementation of financial instruments in recent years. In the previous programming period JEREMIE and JESSICA were successfully implemented in the areas of SME financing and urban development. These instruments were managed by the EIF and the EIB and managed to generate reflows (currently reinvested in legacy funds). In addition to the ESIF instruments, financial instruments were also been implemented with national funds through state owned promotional entities such as the Bulgarian Development Bank, the National Guarantee Fund and FLAG (supporting municipalities). This experience lead to the creation of the Fund Manager for Financial Instruments in Bulgaria (FMFIB) which is currently implementing all ESIF financial instruments.

#### *Overview of financial instruments implemented in the current period*

In the current programming period, the Bulgarian state took the decision to create a new institution responsible for the set up and implementation of ESIF financial instruments in diverse sectors. As FMFIB needed to be entirely set up after the programming period had started, a certain delay in the implementation was a natural consequence. Eventually, FMFIB proceeded with the necessary certifications and hiring and training of personnel and has become fully operational in the last 3 years.

The total ESIF allocation to FMFIB from the OP Human Resources Development (OPHRD), OPIC, OPRIG and OPE is about EUR 580m. The financial instruments currently under implementation are:

- Risk sharing microfinance facility: a microfinance facility in the form of risk sharing microloans implemented through 3 financial intermediaries with funds from OPHRD (targeting to support unemployed people)
- Guarantees for microloans: a portfolio guarantee instrument financed by OPHRD, targeting to support unemployed and vulnerable groups. Currently the selection of intermediaries is underway.
- Equity instruments under OPIC: several equity instruments are implemented namely a technology transfer fund, a seed/acceleration fund, a mezzanine/growth fund, a venture capital fund. These instruments are under implementation with fund managers already selected.
- Urban Development Fund: the instrument is financed by OPRIG, targeting 39 municipalities through 2 sub-funds (Fund for sustainable cities, Regional Urban Development Fund). The available financing products are loans with embedded guarantees. Two fund managers have been selected and the instrument is being implemented.
- Water sector financial instrument: this instrument is financed by the OPE and is being implemented with the involvement of EBRD which has a dual role of manager and financial intermediary under the loan product.





The instrument also offers a guarantee product (also implemented by EBRD). The instrument is targeting water operators that are consolidated at regional level. The preparation of the relevant feasibility studies is conducted under the support of JASPERS.

## 5.2 Financial instruments with a closer focus on EE

In the current programming period there have not been any dedicated financial instruments for EE in buildings. However, there are two instruments with investment strategies that include EE.

Under OP Regions in Growth, the sub funds of the Urban Development Fund mentioned above have included in their investment strategies the potential to finance potential projects in EE for single family houses and student dormitories. So far, no projects have been financed, however according to FMFIB, two projects are under elaboration.

Under OP Innovation and Competitiveness, a guarantee scheme has been launched in November 2019. The purpose of this scheme is to support SMEs in their investment projects including improving their EE performance. According to FMFIB, the loans generated by the guarantees in the specific priority could reach EUR 200m. It is also foreseen that the first 161 companies to receive such loans will also benefit from a grant to cover costs for the energy audit. Currently, FMFIB is in the process of evaluating proposals received from four commercial banks that are interested in participating in the scheme (assuming that the financial instrument implementation will not be affected by the current COVID-19 crisis).

Lessons learnt	Opportunities for the post 2020
<ul style="list-style-type: none"> <li>• There is a strong potential for EE improvement in Bulgaria and high investment needs in all sectors.</li> <li>• Bulgaria has been implementing diverse financial instruments in recent years</li> <li>• In the current period, a dedicated entity FMFIB was created to implement all ESIF financial instruments</li> <li>• Despite the fact that it took some years to become fully operational, FMFIB has engaged in implementing financial instruments in diverse policy areas</li> <li>• The ESIF financial instruments targeting EE have been launched late in the programming period and have not substantial uptake</li> <li>• The availability of grants (reaching up to 100% grant intensity) have created a grant culture especially in the residential sector</li> <li>• However, the existence of financial instruments (non ESIF) implemented through EBRD and the Energy Efficiency Fund is an encouraging factor for the further promotion of financial instruments</li> <li>• Overall, Bulgaria has reported positive results in implementing financial instruments in the form of equity, loans and guarantees</li> </ul>	<ul style="list-style-type: none"> <li>• It can be expected that Bulgaria will be better prepared for the next programming period due to the experience accumulated in recent years</li> <li>• There is political commitment to reduce grant intensity in future grant programmes and further promote the use of financial instruments<sup>32</sup></li> <li>• FMFIB is planning to implement targeted financial instruments for EE</li> <li>• As such, there is opportunity to build on the experience in implementing financial instruments with a dedicated ESIF instrument targeting EE investments</li> <li>• The use of financial instruments could be focused on the promotion of ESCOs and EPC contracting</li> </ul>



### 5.3 Main ESIF grant programmes

ESIF grant programmes implemented in Bulgaria target EE for residential, public buildings and SMEs. More specifically, the main ESIF grants programme for the renovation of buildings is implemented under the OP Regions in Growth. The specific programme has a budget of EUR 280m and is expected to generate investments exceeding EUR 338m. The programme is targeting the renovation of municipal public buildings as well as residential houses. According to data from 2019, renovations have taken place in 166 buildings<sup>33</sup>.

ESIF grants for SMEs are also available through the OPIC, while investment support was also provided to large companies under the grant scheme “Investments in green industry” for projects directly related to the reduction of energy and resource intensity.



## NOTES

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<sup>1</sup> EUROSTAT

<sup>2</sup> National Energy and Climate Plan (draft version)

<sup>3</sup> EUROSTAT

<sup>4</sup> Commission Staff Working Document Country Report Bulgaria 2020

<sup>5</sup> National Energy and Climate Plan (draft version)

<sup>6</sup> EUROSTAT

<sup>7</sup> This data refers to technical final energy savings, which excludes savings achieved thanks to economic or behavioural factors

<sup>8</sup> Odyssee database, stock of dwellings (permanently occupied) year 2016

<sup>9</sup> Building performance Institute Europe (BPIE), Implementing Nearly Zero-Energy Buildings in Bulgaria, 2012

<sup>10</sup> Building performance Institute Europe (BPIE), Implementing Nearly Zero-Energy Buildings in Bulgaria, 2012

<sup>11</sup> World Bank , Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>12</sup> Building performance Institute Europe (BPIE), Implementing Nearly Zero-Energy Buildings in Bulgaria, 2012

<sup>13</sup> World Bank , Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>14</sup> European construction sector observatory. Country profile Bulgaria 2018

<sup>15</sup> National Energy and Climate Plan (draft version)

<sup>16</sup> National Energy and Climate Plan (draft version)

<sup>17</sup> Odyssee-Mure, Database

<sup>18</sup> European construction sector observatory. Country profile Bulgaria 2018

<sup>19</sup> Odyssee-Mure, Energy efficiency trends and policies in Bulgaria

<sup>20</sup> Odyssee database

<sup>21</sup> Odyssee database

<sup>22</sup> EU Energy Poverty Observatory; Member State Report; Bulgaria. June 2020

<sup>23</sup> <https://data.worldbank.org/indicator/NV.IND.TOTL.ZS?locations=BG>

<sup>24</sup> EUROSTAT

<sup>25</sup> Final NECP 2020

<sup>26</sup> World Bank , Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>27</sup> World Bank , Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>28</sup> Ministry of Finance, Ex-ante assessment for the OP Innovation and Competitiveness 2014

<sup>29</sup> Ministry of Finance, Ex-ante assessment for the OP Innovation and Competitiveness 2014

<sup>30</sup> World Bank , Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>31</sup> European Commission-European Structural and Investment Funds-Bulgaria factsheet

<sup>32</sup> World Bank, Bulgaria national Residential Energy Efficiency Programme Phase 2, 2018

<sup>33</sup> JRC Science for Policy Report, Accelerating energy renovation investments in buildings 2019

