REPUBLIC OF BULGARIA

MINISTRY OF ENERGY

FIFTH NATIONAL REPORT ON BULGARIA'S PROGRESS IN THE PROMOTION AND USE OF ENERGY FROM RENEWABLE SOURCES

Drafted in accordance with Article 22(1) of Directive 2009/28/EC on the promotion of the use of energy from renewable sources on the basis of the

model for Member State progress reports set out in Directive 2009/28/EC

December 2019

REPUBLIC OF BULGARIA

MINISTRY OF ENERGY

TABLE OF CONTENTS

ABBREVIATIONS USED

AUER	Sustainable Energy Development Agency
GA	Grant assistance
RES	Renewable energy sources
HEP	Hydropower plant
HPP	RS
VtETs	Wind farm
TFEU	Treaty on the Functioning of the European Union
EC	European Commission
EA	Environmental assessment
EU	European Union
ZBR	Biodiversity Act
ZVAEIB	Renewable and Alternative Energy Sources and Biofuels Act
ZE	Energy Sector Act
ZEVI	Energy from Renewable Sources Act
ZEE	Energy Efficiency Act
ZID	Law amending and supplementing
ZOOS	Environmental Protection Act
ZMDT	Local Taxes and Fees Act
IAG	Executive Agency for Forests
KEVR	Energy and Water Regulatory Commission
KLEEVI	Energy Efficiency and Renewable Energy Credit Line
MVETs	Small hydropower plant
ME	Ministry of Energy
MZHG	Ministry of Agriculture, Food and Forestry
MOSV	Ministry of Environment and Water
NEK	National Electricity Company
NPDEVI	National Renewable Energy Action Plan
NSI	National Statistical Institute
EIA	Environmental Impact Assessment
OP	Operational programme
OPRD	Operational Programme Regional Development 2007-2013
PAVETs	Pumped storage hydropower plant
GG	Greenhouse gases
RIOSV	Regional Inspection Service for the Environment
FETs	Photovoltaic plant

FEEVI	Energy Efficiency and Renewable Sources Fund

UNITS OF MEASUREMENT

y	year
kg	kilogramme
Bulgarian Lev	BGN
m3	Cubic meter
sp. m3	spatial cubic meter
t	tonnes
ha	hectare
gCO2eq.	grammes carbon dioxide equivalent
GWh	Gigawatt-hour
I	litre
MJ	Megajoule
MW	Megawatt
MWh	Megawatt-hour
ktoe	Kilotonne oil equivalent
kW	Kilowatt
tCO2eq.	tonnes carbon dioxide equivalent

1. Shares (sectoral and overall) and actual consumption of energy from renewable sources in the last 2 years (2017 and 2018) (Article 22(1) of Directive 2009/28/EC)[1]

In 2017 and 2018, Bulgaria achieved a share of energy from renewable sources in gross final energy consumption of 18.70 % and 20.49 %, respectively. These values exceed the interim targets set in the National Action Plan for Energy from Renewable Sources (NPDEVI) for the respective years by 5 and 6.79 percentage points, respectively, and also exceed the binding national target for 2020 of 16 % of energy from renewable sources in gross final energy consumption.

The progress achieved is attributable to the higher consumption of energy from renewable sources in the sectors of energy for heating and cooling, and electricity. The transport sector is lagging behind in the achievement of the interim sectoral targets (8.4 % for 2017 and 9.4 % for 2018) as a result of the introduction of new requirements to lower conventional fuel consumption to 7 % and the consumption of biofuels that do not meet the sustainability criteria established in 2018. In view of the requirements laid down in Directive 2009/28/EC for promotion of the use of energy from renewable sources (Directive 2009/28/EC), biofuels and liquid fuels from biomass that do not meet the sustainability criteria may not be taken into account for the purpose of achieving the targets for the share (sectoral and overall) of energy from renewable sources.

Table 1 sets out the sectoral and overall shares of energy from renewable sources achieved in gross final consumption of energy in Bulgaria during the period 2010 – 2018 following the correction of data set out in previous reports in accordance with Article 22(4) of Directive 2009/28/EC.

[1] Estimates by the National Statistical Institute (NSI) provided to the Ministry of Energy (ME) prior to their official publication have been used.

Table 1: *Shares of energy sources by sector (electricity, heating and cooling, and transport) and total share of energy from renewable sources*[2]

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
RES-H&C (%)[3]	24.41 %	24.88 %	27.53 %	29.20 %	28.32 %	28.63 %	30.00 %	29.90 %	33.19 %
RS-E (%)[4]	12.36 %	12.62 %	15.82 %	18.68 %	18.69 %	18.98 %	19.15 %	19.02 %	22.15 %
RS-T (%)[5]	1.42 %	0.83 %	0.60 %	5.83 %	5.68 %	6.44 %	7.16 %	7.24 %	8.06 %
Overall share of renewable sources (%)[6]	**13.97 %**	**14.20 %**	**15.97 %**	**18.88 %**	**17.98 %**	**18.16 %**	**18.76 %**	**18.70 %**	**20.49 %**
Including share of renewable energy generated under the cooperation mechanisms (%)[7]	0	0	0	0	0	0	0	0	0
Surplus available for use under cooperation mechanisms (%)[8]	0	0	0	0	0	0	0	0	0

Source: *NSI estimates submitted to the ME prior to their official publication have been used.*

The gross final consumption of energy from renewable sources in 2017 and 2018 stood at 2 037.8 ktoe and 2 226.1 ktoe, respectively, which represents an increase by an average of 9.2 % as compared to the previous reporting period (2015 – 2016). The greater quantity of solid biomass used in 2018 for the production of heat and/or electricity by thermal power plants and the increase in the consumption of energy from hydropower have an important contribution to the increase. In 2018, the quantity of solid biomass used in energy generation (398.5 ktoe) increased by approximately 9 times as compared to 2017 (47.8 ktoe).

2 This table facilitates the comparison with Table 3 and Table 4a of the National Renewable Energy Action Plans (NPDEVI).

3 Share of renewable energy in heating and cooling: gross final consumption of energy from renewable sources for heating and cooling (as defined in Articles 5(1)(b) and 5(4) of Directive 2009/28/EC) divided by gross final consumption of energy for heating and cooling. The same methodology as in Table 3 of the NPDEVI has been used.

4 Share of renewable energy, used for electricity: gross final consumption of electricity from renewable sources (as defined in Articles 5(1)(a) and (3) of Directive 2009/28/EC) divided by total gross final consumption of electricity. The same methodology as in Table 3 of the NPDEVI has been used.

5 Share of energy from renewable sources in transport: gross final consumption of energy from renewable sources in transport (in accordance with the definitions laid down in Article 5(1)(c) and (5) of Directive 2009/28/EC) divided by the total consumption in transport of: 1) gasoline; 2) diesel; and 3) biofuels used in road and rail transport (in line with the figures on line 3 of Table 1 set out in the NPDEVI). The same methodology as in Table 3 of the NPDEVI has been used.

6 Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of the NPDEVI has been used.

7 Expressed as percentage points of overall share of energy from renewable sources.

8 Expressed as percentage points of overall share of energy from renewable sources.

Table 1a: *Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)*[9]

	2010	2011	2012	2013	2014	2015	2016	2017	2018
(A) Gross final consumption of energy from RS for heating and cooling	974.3	1 043.3	1 122.0	1 142.5	1 087.3	1 146.6	1 203.0	1 229.2	1 345.2
(B) Gross final consumption of energy from renewable sources	393.1	420.7	514.7	586.7	595.8	614.9	620.8	636.2	729.8
(C) Gross final consumption of energy from renewable sources in transport	19.2	6.0	5(1)	105.7	114.9	149.9	168.6	172.4	151.1
(D) Gross total consumption of energy from renewable sources[10]	**1 386.7**	**1 470.0**	**1 641.8**	**1 834.9**	**1 798.0**	**1 911.5**	**1 992.4**	**2 037.8**	**2 226.1**
(E) Statistical transfer of consumption of energy from renewable sources to other Member States	0	0	0	0	0	0	0	0	0
(F) Statistical transfer of consumption of energy from renewable sources from other Member States and third countries	0	0	0	0	0	0	0	0	0
(G) Consumption of energy from RS adjusted for target (D)-(E)+(F)	1 386.7	1 470.0	1 641.8	1 834.9	1 798.0	1 911.5	1 992.4	2 037.8	2 226.1

Source: *NSI estimates submitted to the ME prior to their official publication have been used.*

During the period 2017 – 2018 installed capacity for the production of electricity from biomass increased owing to the transition of existing plants from conventional fuels to biomass, reaching 195 MW in 2018. As compared to 2017, the installed capacity of these plants increased by approximately 4 times. The installed capacity of hydropower plants (HPPs) in 2018 also increased as compared to 2017 mostly owing to the commissioning of rehabilitated power generation facilities. These have a total installed capacity of 5.2 MW. There has been no significant change in the installed capacity of wind farms and photovoltaic plants.

The generation of electricity from renewable sources (after applying the normalisation rule to electricity from hydropower plants, wind farms and photovoltaic plans) in 2017 – 2018 increased by 10.5 % owing to the significant increase in electricity generated from solid biomass and, to a lower degree, to the electricity generated by hydropower plants and wind farms.

Table 1b sets out information about installed capacity and gross production of electricity from renewable sources following normalisation of electricity generation from hydropower and wind farms in accordance with Directive 2009/28/EC.

Table 1b: *Overall actual contribution (expressed in installed capacity and gross electricity generation) of each technology for renewable electricity generation used in the Republic of Bulgaria to the targets for 2020 and to the indicative trajectory for the shares of energy from renewable sources in electricity*[11]

	2017		2018	
	MW	**GWh**	**MW**	**GWh**
HPP (normalised generation)[12]	**3 371.6**	**4 280.7**	**3 379.0**	**4 339.0**

9 This table facilitates comparison with Table 3 and Table 4a of the NPDEVI.

10 In accordance with Article 5(1) of Directive 2009/28/EC the gaseous fuels from renewable energy sources and hydrogen should be reported only once. Double reporting is not allowed.

11 This table facilitates comparison with Table 10a of the NPDEVI.

12 Data normalised in accordance with Directive 2009/28/EC and the Eurostat methodology.

	2017		2018	
	MW	**GWh**	**MW**	**GWh**
off-pump (normalised generation)	2 358.6	3 859.9	2 366.0	3 900.9
PAVETs (non-normalised generation)	864.0	664.8	864.0	276.2
With combined heat and power mode of operation (normalised generation)[13]	149.0	420.8	149.0	438.1
Geothermal power plants				
Solar power plants	**1 035.6**	**1 403.0**	**1 032.7**	**1 342.8**
photovoltaic	1 035.6	1 403.0	1 032.7	1 342.8
concentrated solar power				
Tide, wave, ocean energy				
Wind farms (normalised generation)	**698.4**	**1 427.7**	**698.9**	**1 408.8**
onshore (non-normalised generation)	698.4	1 504.1	698.9	1 318.1
offshore (non-normalised generation)				
Biomass[14]	**52.0**	**396.0**	**194.8**	**1 492.3**
solid biomass	23.0	180.2	158.4	1 280.0
biogas	29.0	215.8	36.4	212.3
bioliquids				
TOTAL	**5 157.6**	**7 507.4**	**5 305.4**	**8 583.0**
of which Combined Heat and Power (CHP)		289.4		685.9

Source: *NSI estimates submitted to the ME prior to their official publication have been used.*

The sector of energy for heating and cooling has the greatest contribution to the achievement of the target for share of energy from renewable sources in gross final consumption in Bulgaria. Biomass has the greatest share of energy from renewable sources in this sector (88.4 % in 2018). The use of geothermal and solar energy for heating is still underdeveloped and in 2018 the shares of energy from these renewable sources in gross final consumption for heating and cooling in Bulgaria stood at 2.6 % and 1.9 %, respectively. In 2018, the use of renewable municipal solid waste was (36.3 ktoe) for the generation of energy for heating was taken into account. In the period 2010 – 2018 the use of energy generated by heat pump systems increased by approximately 2.5 times, which is seen as a positive trend.

Table 1c: *Overall actual contribution (final energy consumption[15]) of each technology used for production of renewable energy in the Republic of Bulgaria to the binding targets for 2020 and to the indicative trajectory for the shares of energy from renewable sources in heating and cooling (ktoe)*[16]

	2017	2018
Geothermal (excluding low-temperature geothermal heat used in heat pump systems)	**34.6**	**34.6**
Solar energy	**23.5**	**24.9**
Biomass	**1 083.7**	**1 156.9**
solid biomass	1 072.6	1 148.0
biogas	11.1	8.9
bioliquids	0.0	0.0
Renewable energy from heat pumps	**87.4**	**92.4**
of which aerothermal	68.0	71.3
of which geothermal	0.0	0.0
of which hydrothermal	19.5	21.1
TOTAL	**1 229.2**	**1 308.8**
of which for district heating systems		

13 According to the new Eurostat methodology.
14 Only electricity generated from biomass complying with applicable sustainability criteria has been taken into account — cf. the last subparagraph of Article 5(1) of Directive 2009/28/EC.
15 Direct use and district heat as defined in Article 5(4) of Directive 2009/28/EC.
16 This table facilitates comparison with Table 11 of the NPDEVI.

	2017	2018
of which energy from biomass used in households	759.6	738.7

Source: *NSI estimates submitted to the ME prior to their official publication have been used.*

In 2017 and 2018, gross annual consumption of energy from renewable sources in transport stood at 172.4 ktoe and 151.1 ktoe, respectively. The reported decrease is due to the introduced limit on conventional fuel consumption that May be counted towards target achievement in the transport sector and to the registered 18 ktoe of biofuels that do not meet sustainability criteria. In 2018, 11.25 ktoe of new generation biofuels were used, which corresponds to 0.33 % of final consumption of energy in transport (3 372.2 ktoe).

Table 1d: *Overall actual contribution of each technology for renewable energy generation used in Bulgaria to the binding targets for 2020 and to the indicative interim trajectory for the shares of energy from renewable sources in the transport sector (ktoe)*[17][18]

	2017	2018
Bioethanol	**26.6**	**28.6**
Biodiesel (FAME)	**136.4**	**114.3**
Hydrotreated Vegetable Oils (HVO)		
Biomethane		
Diesel fuel produced in the Fischer-Tropsch process		
Bio-ethyl tert-butyl ether (bio-ETBE)		
Bio-methyl tert-butyl ether (bio-MTBE)		
Bio-dimethyl ether (bio-DME)		
Bio-tert-Amyl ethyl ether (bio-TAEE)		
Biobutanol		
Biomethanol		
Pure plant oil		
Total biofuels produced in a sustainable manner, incl.	**163.0**	**142.9**
biofuels, produced in a sustainable manner from resources, specified in section A of Annex IX		11.3
other biofuels produced in a sustainable manner that May be taken into account in connection with the target under Article 3(4)(e)		
biofuels, produced in a sustainable manner from resources specified in section B of Annex IX		42.3
biofuels, produced in a sustainable manner, the contribution of which to achieving the target for energy from renewable sources is subject to the limitation stipulated in Article 3(4)(d)	163.0	89.4
Import from third countries	**15.9**	**17.6**
Hydrogen, produced on the basis of RS		
Electricity from RS	**9.4**	**8.2**
consumed in road transport	1.3	0.9
consumed in rail transport	7.5	6.9
consumed in other transport sectors	0.5	0.4
Others (please specify)		
Total energy from RS	**172.4**	**151.1**

Source: *NSI estimates submitted to the ME prior to their official publication have been used.*

[17] For biofuels, only those compliant with sustainability criteria are to be taken into account, cf. Article 5(1), last subparagraph, of Directive 2009/28/EC.

[18] This table facilitates comparison with Table 12 of the NPDEVI.

2. Measures taken in the last 2 years (2017 and 2018) and/or planned at national level to promote the growth of energy from renewable sources, taking into account the indicative trajectory for achieving the national RES targets as outlined in your National Renewable Energy Action Plan. (Article 22(1)(a) of Directive 2009/28/EC)

Table 2: Summary of all policies and measures

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
Existing measures under Table 5 of the NPDEVI					
1. Preferential prices for electricity produced from renewable sources (FiT)	Financial	Electricity Generation (ktoe)	Investors	Existing[19]	Launched in 2007 The measure is effective. The changes implemented during the reporting period are set out in point 2a. After 1 January 2016, the measure for new plants has been applied only to the power plants envisaged in Article 24(1) of the Energy from Renewable Sources Act (ZEVI).
2. Obligatory and priority connection of producers of electricity from renewable sources to the grid	Regulatory	Energy generated (ktoe)	Investors	Existing[20],[21]	June 2007 — May 2011 The measure was implemented during the period June 2007 — May 2011 in accordance with the Renewable and Alternative Sources of Energy and Biofuels Act (ZVAEIB, repealed). A new approach was introduced with the adoption of the ZEVI in 2011.
3. Payment only of the direct costs of connection to the grid	Regulatory	Installed capacity, MW	Investors	Existing[24]	Implemented since 2011. The measure is effective. No deadline.
4. Long-term contract for the purchase of electricity generated from renewable sources	Regulatory	Electricity generated (ktoe)	Investors	Existing[2/1]	Launched in 2007 The measure is effective. The changes implemented during the reporting period are set out in point 2a. As of 1 January 2016, the measure applies only to the power plants envisaged in Article 24(1) of the ZEVI.
5. Obligatory purchase of electricity produced from renewable sources, except for HPPs with installed capacity of more than 10 MW.	Regulatory	Electricity generated (ktoe)	Investors	Existing[23. 24]	June 2007 — May 2011 The measure was applied during the period 2007—2011 in accordance with the ZVAEIB (repealed).
6. Penalty payments in the event of curtailment of production due to a fault attributable to the grid operator	Financial	Electricity generated (ktoe)	Investors	Existing[23]	Implemented since May 2011. The measure is effective. No deadline.
7. Compensation mechanism for the costs incurred by the public supplier and public retailers on purchasing electricity from renewable sources at preferential prices	Regulatory	Electricity generated	Grid operators, investors and consumers	Existing[22]	The measure is effective. In 2015, amendments were introduced to the Energy Act (SG No 56/2015) by which the Security of the Electricity System Fund was established to manage the funds necessary to cover the costs incurred by the public supplier, where these arise from its obligations to purchase the electricity generated under long-term contracts [at] preferential prices.

19 The measure is included in Table 5 of the NPDEVI as 'Existing' and has been changed during the reporting period.

20 The measure is included in Table 5 of the NPDEVI as 'Existing' and has not been changed during the reporting period as compared to the previous reporting period.

21 The measure is included in Table 5 of the NPDEVI as 'Existing' and was no longer implemented during the reporting period.

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
8. Licensing procedures for producers of electricity from renewable sources with installed capacity of more than 5 MW	Regulatory	Energy generated	Producers	Existing[23]	The measure is effective. No deadline.
9. Certificates of origin	Regulatory	Electricity generated from RS (ktoe)	Investors	Existing[23]	The measure is effective. The guarantees of origin are issued by the Agency for Sustainable Energy Development (AUER) in accordance with Regulation No RD-16-1117 of 14 October 2011 laying down the requirements and procedure for the issuance, transfer, revocation and recognition of the guarantees of origin of energy from renewable sources.
10. Obligation of the persons placing on the Market petroleum-derived liquid fuels for transport purposes to offer fuels for diesel and petrol engines blended with biofuels in the percentage ratio laid down in the ZVAEIB and, currently, the ZEVI.	Regulatory	Production and use of biofuel (ktoe)	Investors, traders	Existing[23]	The measure is effective. The ZEVI envisages a blending obligation for petroleum-derived liquid fuels with biocomponents with a phased increase of the content of biocomponents in petroleum-derived liquid fuels used in the transport sector.
11. Energy Efficiency and Renewable Energy Credit Line (KLEEVEI)	Financial	Electricity generated (ktoe)	Investors, end consumers (business)	Existing[24]	Funds have been provided via the credit line since 2004.
12. Operational Programme Development of the Competitiveness of the Bulgarian Economy 2007–2013	Financial	Gross electricity generation from renewable sources	Investors	Existing[23]	Launch date of measure: 2010 The funds are currently provided under Operational Programme Innovations and Competitiveness 2014–2020.
13. Rural Development Programme 2007—2013	Financial	Generation of energy from renewable sources	Investors	Existing[23]	Measure launched in 2007. The measure remains effective during the programming period 2014–2020.
14. Operational Programme Environment	Financial	Gross electricity generation from renewable sources	Municipalities	Existing[22]	Measure launched in 2007. The measure has remained effective during the programming period 2014–2020.
To Planned measures set out in Table 5 (Annex 1) of the NPDEVI					
1. Establishment of the Agency for Sustainable Energy Development (AUER)	Administrative	Installed capacity, energy from renewable sources generated and used, change in behaviour	Investors, energy undertakings, final consumers, planning authorities, associations and sectoral chambers, installation organisations	Implemented[23]	The Agency was established in 2011 under the ZEVI as the legal successor to the Energy Efficiency Agency.

22 The measure included in Table 5 of the NPDEVI as ‘Existing’ has been introduced or amended during the reporting period.

23 The measure included in Table 5 of the NPDEVI as ‘Planned’ has been implemented and is currently effective without any modification as compared to the previous reporting period.

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
2. Development of a geographical information system for Bulgaria	Soft	Installed capacity, energy generation	Investors, public administration, final consumers	Implemented[25], [26]	Establishment of an Information Platform for Interoperability of Spatial Data and Services for Use by the Public Administration and Citizens in Relation to Energy from Renewable Sources under Operational Programme Administrative Capacity, priority axis III 'High-quality administrative service delivery and development of e-government', Sub-priority 3.2. 'Standard information and communication environment and interoperability'. Within the framework of project 'Development of a web-based geographic information system (GIS) providing information about the condition and possibilities for upgrading the energy performance of buildings (ENERFUND)' work is under way to promote the web-based geographic information system as an instrument that facilitates the work of stakeholders — municipalities, beneficiaries under programmes financed by EU funds, financial organisations (banks, credit lines), energy service companies (ESCOs), etc. in Decision-making on providing financing and developing strategies for upgrading the energy performance of buildings.
3. One-stop shop administrative service delivery	Administrative	New installed capacity (MW/year)	Investors, final consumers	Implemented[25]	At the beginning of 2014 the AUER introduced an online system for submission, registration and processing of applications and information about the generation of energy from renewable sources, guarantees of origin, transmission and distribution of electricity, and production and use of biofuels. No deadline.
4. Enhancing the administrative competence and capacity of the officials responsible for the issuance of authorisations and licences	Administrative	Behavioural change	Authorisation bodies (all levels)	Implemented[25]	The AUER is actively pursuing a policy of enhancing the administrative capacity of its staff. Detailed information is set out in point 3.
5. Financing of projects for the generation of energy from renewable sources and energy efficiency	Financial	Installed capacity, energy generated and used, emission savings	Investors, final consumers	Implemented	Ongoing implementation; No deadline for application. Information is set out in point 3.
6. Developing rules and using Emissions Trading Scheme (ETS) funds	Financial	Installed capacity, energy generated and used, emission savings	Investors, final consumers	Implemented[25]	The amendments to the Energy Sector Act (SG No 56/2015) specify the sources of funds to be collected by the Energy System Security Fund, including the revenues generated from the auctioning of allowances
7. Enhancing the procedures for issuing authorisations and signing contracts for connection to the grid	Regulatory	Installed capacity, energy generation	companies, investors	Implemented[23]	Since May 2011 — ongoing. No deadline.
8. Support for the construction of new transmission and distribution infrastructure relating to the connection of new producers of energy from renewable sources to the grid —	Administrative and regulatory	New installed capacity (MW/year)	Investors, final consumers	Implemented[23]	Since May 2010 — ongoing. No deadline.

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
the infrastructure in question has the status of a national infrastructure site					
9. Introducing competition between the renewable sources used for energy generation	Regulatory	Installed capacity, energy generation	Electricity companies, investors	Implemented[26]	Since 1 January 2016 all new producers of electricity from renewable sources (with the exception of the energy sites referred to in Article 24(1) of the ZEVI) must sell their electricity on the electricity exchange.
10. Assistance for the development of smart networks and accumulating facilities	Regulatory	Installed capacity (more efficient integration)	Grid owners, Investors, end consumers	Ongoing implementation	According to the Electricity System Management Rules (SG No 6 of 21 January 2014; amended in SG No 100 of 15 December 2017) the Electricity System Development Plans are developed every two years, taking into account the development of the transmission and distribution grids, including smart grids, and the construction of regulating and accumulating facilities to enhance the secure functioning of the electricity system in the development of energy production from renewable sources. Pursuant to Article 3(1) of the Electricity Distribution Network Management Rules (SG No 66 of 14 August 2007; amended in SG No 100 of 15 December 2017, in force as from 15 December 2017) distribution companies develop plans for the development of the electricity distribution network.
11. Use of options for the management of consumption and load reaction	Regulatory	Installed capacity (more efficient integration)	Research community, industry	Implemented[23]	Electricity System Management Rules (SG No 6 of 21 January 2014; amended in SG No 100 of 15 December 2017).Rules on Electricity Trading (SG No 66 of 26 July 2013, amended and supplemented n SG Nos 39 of 9 May 2014; 90 of 20 November 2015; 100 of 15 December 2017; 72 of 31 August 201 [sic]; and 35 of 30 April 2019).
12. List of qualified installers	Regulatory	Behavioural change, energy generated	Installer organisations, end consumers, investors, authorising bodies, financial organisations	Implemented[25]	Institutions entitled to provide training for qualification under the Vocational Education and Training Act shall be required to annually submit to the Agency for Sustainable Energy Development (AUER) a list of persons who have acquired qualifications to perform the relevant activities.
13. Application or use of cost-benefit analysis	Financial, regulatory	Improving the business environment	Investors, end consumers, planning authorities	Implemented[25]	Permanent. No deadline for application.
14. Public awareness campaign, promoting renewable sources	Information	Behavioural change	Installer organisations, end consumers, investors, authorising bodies, financial organisations	Existing	Permanent. Within the framework of the activities performed by the AUER and the long-term and short-term municipal programmes for promotion of the use of energy from renewable sources and biofuels developed in accordance with Article 10(1) of the ZEVI. No deadline.
15. List of facilities for generating energy from RS	Information	Behavioural change	Investors, end	Implemented[25]	Since the beginning of 2012 the AUER has maintained an electronic

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
			consumers, public administration		register of the guarantees of origin and publishes data from the register, including the facilities, on its webpage. No deadline.
16. List containing detailed up-to-date information about investor interest and the progress in administrative and licensing procedures	Information	New installed capacity (MW/year)	Investors, final consumers	Implemented[25]	Launched in 2011. The measure is effective. No deadline. The KEVR keeps a register of issued licences, authorisations and the contracts concluded under Article 97(1) of the ZE
17. Harmonisation of national law with the requirements of the amended Directive 2002/91/EC and of Directives 2009/28/EC; 2009/29/EC; and 2009/30/EC.	Regulatory	Development and improvement of the legal framework for implementation of the national policy for reducing greenhouse gas emissions	Construction, designers, public administration	Implemented[24]	The measure is effective. No deadline. With a view to transposing the requirements laid down in Directive (EU) 2015/1513 into national law the Renewable Energy Act was amended and supplemented during the reporting period (SG No 91 of 2 November 2018). Regulation No 16-869 of 2 August 2011 on calculation of the total share of energy from renewable sources in gross final energy consumption and the consumption of biofuels and energy from renewable sources in transport was also amended and supplemented.
18. Replacement of liquid fuels and electricity used for heating public buildings with biofuels and energy from renewable sources	Regulatory and financial	ktoe	Energy suppliers, municipalities	Existing[25]	The measure is permanent. No deadline.
19. Mandatory use of energy from renewable sources in new buildings	Legislative	ktoe	Investors, construction, designers, end consumers, public administration	Existing[25]	The measure has been introduced by the Energy Efficiency Act (ZEE) and the ZEVI. No deadline.
20. Financing projects via the FEEVI	Financial	ktoe	End consumers	Existing[25]	The measure is permanent. No deadline.
21. Promotion of the use of individual systems for generating energy from renewable sources	Financial	New installed capacity (MW/year)	Investors, end consumers, public administration	Implemented[25]	The measure was introduced by the ZEVI and the ZEE. No deadline.
22. Aid scheme for energy for heating and cooling from renewable sources in industry	Financial, regulatory	Behavioural change, installed capacity (MW/year), energy generated (ktoe)	Investors, end consumers, public administration	Implemented[25]	During the reporting period the production of energy from renewable sources was supported under operational programmes and Programme BG04 Energy efficiency and renewable energy, financed by the Financial mechanism of the European Economic Area 2009-2014.
23. Aid scheme for the generation of energy for heating	Financial,	Behavioural change,	Investors, end	Existing[25]	The measure is permanent.

[24] The measure is included in Table 5 of the NPDEVI as ‘Planned’ and was introduced during the reporting period.

Name and reference of the measure	Type of measure	Expected result	Targeted group and/or activity	Existing or planned measure	Start and end dates of the measure
from renewable sources in residential and public buildings	regulatory	installed capacity (MW/year), energy generated (ktoe)	consumers, public administration		No deadline. A National Energy Efficiency Programme for Multifamily Residential Buildings was adopted by Decree No 18 of 2 February 2015 of the Council of Ministers.
24. Programme for financial incentives for the use of local heating	Financial	ktoe	Investors	Planned	2013 — permanent. No deadline.
25. Tax incentives for investment in the production of energy from renewable sources for household consumption	Financial	ktoe	End consumers	Existing[25]	The measure was introduced in 2009 in the Local Taxes and Fees Act (ZMDT). According to Article 24(1)(18) and (19) of the ZMDT the buildings that comply with the stipulated requirements and implement measures for the use of renewable sources for energy production to cover electricity consumption in the building shall be exempt from taxes for the time period envisaged by law. No deadline.
26. Development of assessment procedures requiring the mandatory Marking of equipment used for biomass incineration	Regulatory, financial	ktoe	Energy suppliers	Implemented[25]	The measure was introduced in 2011. The Marking is carried out in accordance with the Technical Requirements for Products Act, taking into account eco-design requirements. No deadline.
27. Development of a Programme for accelerated switch of government and municipal public transport vehicles to biogas	Regulatory, financial	ktoe	Energy suppliers	Implemented[25]	The measure is effective. No deadline.
28. Biofuel quality control system	Regulatory, financial	ktoe	Energy suppliers	Existing[27]	The measure was initially introduced by the ZVAEIB in 2007 and updated in the ZEVI in 2011. The amendments to the ZEVI (SG No 91 of 2 November 2018) improved the precision of certain provisions, aiming to optimise, clarify and ensure uniform interpretation of the law, and more specifically the provisions governing consumption and stipulating the requirements for quality, control and the placing on the Market of biofuels and their mixtures. No deadline.
29. Programme for the Promotion and Introduction of Electric Cars	Not determined	Installed capacity (more efficient integration)	Research community, industry	Implemented[25]	The core strategic documents at a national level explore the theme of alternative fuels and technologies. No deadline.

2.a Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan (Article 22(1)(b) of Directive 2009/28/EC)

In 2017 and 2018, the following substantial amendments to legislation governing the production and use of energy from renewable sources were adopted:

- Law amending and supplementing the Energy Sector Act (SG No 38/2018, in force as from 8 May 2018).

By the Law amending and supplementing the Energy Sector Act (ZID ZE) a new support scheme for the production of electricity from renewable sources was introduced. According to the new rules electricity is supported by means of a:

- premium paid to the producers of electricity from renewable sources operating plants with installed capacity of 4 MW or more than 4 MW.

The amended Energy Sector Act further envisages that electricity from renewable sources generated by plants with installed capacity of 4 MW and more than 4 MW for which long-term agreements for the purchase of electricity at preferential prices have been concluded is to be sold on the organised electricity Market (electricity exchange). The Energy System Security Fund (FSES) compensates electricity producers by means of a premium paid on the basis of a dedicated contract concluded between the Fund and each producer. The premium covers the quantity of electricity produced up to the net specific production of electricity determined for each producer and used as a basis for preferential price calculation.

No premium is envisaged for new plants for the production of electricity from renewable sources.

The premium is granted until the expiry of the term specified in the relevant long-term purchase agreement or in the contract envisaged in §7 of the Transitional and Final Provisions of the Energy from Renewable Sources Act concluded before the entry into force of the Law amending and supplementing the ZE.

According to §68(2) of the Transitional and Final provisions of the Law amending and supplementing the ZE the premium is determined by the Energy and Water Regulatory Commission (KEVR) by 30 June each year as the difference between the preferential price determined prior to the entry into force [of the amended ZE] or the updated preferential price for the project, as the case May be, and the estimated Market price of electricity generated from renewable sources determined for this period depending on the primary energy source.

According to Article 36b(2) of the Energy Sector Act the Energy System Security Fund manages the funds available to cover the costs relating to the payment of premiums to energy producers operating plants with a total installed capacity of 4 MW and more than 4 MW. The premiums payable, including for past regulatory periods, are determined by a Decision of the KEVR.

The enacted amendments aim to gradually integrate all producers of energy from renewable sources into the liberalised electricity Market.

- Preferential price for electricity generated from renewable sources by plants with installed capacity of up to 4 MW

The Law amending and supplementing the ZE imposes restrictions on the support for electricity generated from renewable sources through preferential prices. Under the new mechanism support is only available for the electricity generated by plants with total installed capacity of less than 4 MW. The only exception applies to systems with total installed capacity of up to and including 30 kW, designed to be mounted on the roofs and exterior walls of buildings that are already connected to the electricity distribution network and situated on the surrounding land plots within the boundaries of urban areas.

According to Article 31(1) of the ZEVI the public supplier and electricity retailers purchase the

electricity from renewable sources generated by power plants with installed capacity of less than 4 MW at a preferential price determined by the KEVR. The costs incurred by the public supplier on purchasing electricity from renewable sources generated by plants with installed capacity of less than 4 MW are fully compensated by the FSES.

In connection with the amendments to the Energy Sector Act, Commission Decision No (2016) 5205 of 4 August 2016 on State aid SA 44849 (2016/NN) – Bulgaria – Support for electricity generation from renewable sources in Bulgaria (Commission Decision C(2016) 5205 final) and the functions of the Minister of Energy pursuant to Article 4(2)(14) as State aid and *de minimis* aid administrator in the energy sector, Bulgaria submitted two notifications to the European Commission under

– the support scheme for electricity generation from renewable sources in Bulgaria (Commission Ref. No SA.51542 under the simplified procedure envisaged in Article 4 of Commission Regulation (EC) No 794/2004 implementing Council Regulation (EC)No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty) and

– Support scheme for electricity generation from renewable sources by power plants with total installed capacity of 4 MW and more than 4 MW (Commission Ref. No SA.51543.

The Commission registered both notifications on 6 July 2018, joining them into a single file (SA.51542 (N/N) Changes to the scheme for supporting producers of renewable energy in Bulgaria).

■ Law amending and supplementing the ZEVI (ZID ZEVI, SG No 91 of 2 November 2018);

The amendments to the ZEVI ensured:

- the transposition of the requirements envisaged in Article 2 of Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources (Directive (EU) 2015/1513).
- compliance with the requirements stipulated in Commission Decision on State aid No C (2016) 5205 final of 4 August 2016 on support for energy generation from renewable sources in Bulgaria — SA.44840 (2016/NN);
- compliance with the recommendation of the [European Court of Auditors] set out in Report No 0300001613 on an audit conducted to verify the achievement of EU and national targets for the production and use of biofuels for the period 1 January 2008 – 31 December 2012.

The amendments, which transposed Directive (EU) 2015/1513 into national law, primarily concerned the consumption of biofuels and the achievement of the mandatory target of 10 % of renewable energy in the final consumption of energy in transport by 2020.

A 7 % threshold was introduced for the consumption of conventional fuels (produced from raw materials, which are food and feed crops or energy crops cultivated on agricultural land) that May be taken into account for the purpose of achieving the mandatory target of 10 % of renewable energy in the final consumption of energy in transport.

With a view to ensuring compliance with Directive (EU) 2015/1513 Bulgaria has set and submitted to the European Commission its national target for the consumption of new generation fuels (fuels produced from residues such as straw, algae, grape Marc, livestock manure, sludges, etc.) of 0.05 percentage points of energy content from the mandatory share of energy from renewable sources in all types of transport to be achieved by 2020.

In order to achieve this target, on 1 April 2019 an obligation was introduced for the persons placing on the Market petroleum-derived liquid transport fuels to Market fuels for diesel engines with a minimum biodiesel content of 6 percent by volume with a minimum of content of 1 percent of new-generation biofuel by volume. The same obligation was introduced for end distributors and for distributors of petroleum-derived liquid fuels.

According to the enacted amendments the persons who make available on the Market petroleum-derived liquid fuels in transport upon release for consumption within the meaning of the Excise Duties and Tax Warehouses Act are to offer in the Market fuels for diesel engines and petrol engines blended with biofuels in the following proportion:

- fuel for diesel engines with a minimum of biodiesel content 6 percent by volume;
- fuel for petrol engines with a minimum content of bioethanol and/or ethers produced from biomass of 7 percent by volume;
- from 1 April 2019 — fuel for diesel engines with a minimum content of biodiesel of 6 percent by volume, of which at least 1 percent by volume of the biodiesel is new generation biofuel;
- from 1 September 2018 — fuel for petrol engines with a minimum content of bioethanol or ethers produced on the basis of bioethanol of 8 percent by volume;
- from 1 March 2019 — fuel for petrol engines with a minimum content of bioethanol or ethers produced on the basis of bioethanol of 9 percent by volume;

The Law amending and supplementing the ZEVI expanded the scope of the Regulation referred to in Article 44(2) of the ZEVI (Regulation laying down the criteria for sustainability of biofuels and liquid fuels from biomass (SG No 95 of 4 December 2012, in force as from 4 January 2013; amended and supplemented in SG No 10 of 1 February 2019) as regards the requirements and procedure for detecting and tracing the raw materials used in the production of new-generation biofuels and the biofuels produced from them along the entire value chain with a view to preventing their intentional modification or preventing them from becoming waste to ensure that they fall within the range of raw materials for the production of new-generation biofuels.

With a view to streamlining and ensuring a clear and uniform interpretation of the currently applicable ZEVI governing the consumption, quality requirements, control and placing on the Market of biofuels and their blends, the precision of the provisions laid down in Chapter Five, Sections II and III has been improved.

In order to ensure compliance with Commission Decision on State aid No C (2016) 5205 final of 4 August 2016 and eliminating the risk of infringement of Article 30 and/or Article 110 of the Treaty on the Functioning of the European Union (TFEU) the Transitional and Final Provisions of the Energy Sector Act were amended with a view to:

- Abolishing the ‘public service obligation’ price component that previously covered the cost of purchasing electricity from renewable sources (‘green energy’ component) for electricity generated from renewable sources in other EU Member State and used in Bulgaria;
- Determining the amount of compensation for the period from 1 July 2011 until the entry into force of the amendments to the Energy Sector Act to be invested in the development of the capacity of interconnections and in particular for the construction of a new interconnecting electricity distribution line of 400 kV from substation Maritsa East in Bulgaria to substation Nea Santa in Greece.

In order to ensure compliance with the recommendation received from the [European Court of Auditors] and set out in Report No 0300001613 additional powers were granted to the Minister of Agriculture, Food and Forests to ensure better co-ordination of the efforts to achieve transport sector targets.

- **Law amending and supplementing the Energy Sector Act (SG No 83 of 9 October 2018)**

The enacted amendments to the Energy Sector Act aim to ensure the full and correct transposition into national law of the requirements laid down in Directives 2009/72/EC, 2009/73/EC and 2014/94/EU on the deployment of alternative fuels infrastructure. The Bill was adopted by the 44th National Assembly on 26 September 2018.

- **Law amending and supplementing the Environmental Protection Act (SG No 98 of 27 November 2018)**

The Environmental Protection Act (ZOOS) was also amended and supplemented in order to ease the administrative burden for businesses by creating optimal conditions for investors while ensuring full compliance with the requirements for effective control. A new joint procedure was introduced for investment proposals subject to a mandatory environmental impact assessment (EIA) for the purpose of issuing integrated permits and/or safety reports for upper-tier establishments. The procedure is optional and conducted at the request of the contracting authority. The joint procedure contributes to a better overall business environment, significantly shortens the relevant time periods, ensures that stable and consistent administrative Decisions are issued and, last but not least, has a cost-saving effect. A Decision taken under the joint procedure is a guarantee for compliance with the requirements for environmental protection and human health and a guarantee for the next stage of obtaining construction and use permits. The periods in which administrative bodies are required to adopt Decisions on the issuance and review of integrated permits have also been reduced. The same applies to the time period for determining the procedure to be followed in the case of planned changes in the work of installations operating under an integrated permit. In addition, following the amendments to the ZOOS the procedure to be followed for the purpose of issuing integrated permits is No longer determined by the Ministry of Environment and Water but by the Executive Agency for the Environment. Thus, a single body is now responsible for the procedures relating to the issuance of integrated permits in line with the one-stop-shop principle of administrative service delivery. The change has reduced the overall length of the procedures for the issuance of integrated permits.

- **Regulation No 1 of 14 March 2017 on electricity price regulation, issued by the Head of the KEVR (SG No 25 of 24 March 2017, in force as from 24 March 2017; amended and supplemented in SG No 52 of 22 June 2018)[25];**

The Regulation lays down the main methods of electricity price regulation, the rules on price calculation and change, and the procedure for the provision of information, submission of electricity price proposals and their approval.

In 2018, the Regulation was amended in connection with the enacted amendments to the Energy Sector Act (SG No 38/2018, in force as from 8 May 2018) relating to the next stage in the liberalisation of the electricity Market, and more specifically

- the discontinuation of the model of mandatory purchase of electricity from renewable sources and high-efficiency cogeneration produced by plants with total installed capacity of 4 MW and more than 4 MW and the obligation of the public supplier of electricity to sell electricity to network operators in order to cover technological transmission/distribution costs. Changes were also introduced to the pricing model of said electricity producers and in the method of calculation of the technological costs of electricity transmission grid and electricity distribution network operators.
- Additional powers were delegated to the KEVR to determine the premium payments for electricity from renewable sources generated by power plants with total installed capacity of 4 MW and more than 4 MW, the forecast Market prices per producer group, depending on the primary energy source, and the forecast Market price for the technological costs incurred by the electricity grid operator and distribution network operators. The method of calculation of premium payments was specified in greater detail and a methodology for forecast Market price calculation was introduced.
- In line with amended legislation the abovementioned producers, the public electricity supplier for the quantities of electricity exceeding those needed to cover consumption on the regulated Market, and the operators of the electricity grid and electricity distribution network, are to sell the entire quantity of electricity generated, respectively purchase the

[25] Information from the KEVR Report on activity for 2017 has been used.

quantity of electricity necessary to cover technological costs, to/from the various segments of the organised electricity exchange;

- Improving the precision of the provisions governing price approval proceedings;
- Lowering the administrative burden by introducing provisions enabling the electronic submission of applications via the information and services web portal of the KEVR.

- **Regulation amending and supplementing Regulation No 3 of 21 March 2013 on licensing activities in the energy sector (SG No 33 of 5 April 2013; amended and supplemented in SG No 52 of 22 June 2018)[26];**

The enacted amendments to the Regulation introduce rules that contribute to lowering the administrative burden by providing a possibility for the submission of applications and complaints via the single information and services web portal of the Electricity and Water Regulation Commission. In addition, the number of documents required to be submitted in administrative proceedings has been reduced.

- **KEVR Decisions setting the preferential prices of electricity generated from renewable sources:**
  - Decision No Ts-11 of 14 June 2017 setting the preferential purchase prices of electricity generated from renewable sources — biomass from wood obtained from wood wastes, salvage logging in woods, tree cutting and other wood waste using cogeneration, following the revocation of point 2 of Decision Ts-1 of 28 January 2015 by Judgment No 1320 of 29 February 2016 delivered in Case No 4882/2015 on the record of the Sofia Administrative Court, Panel 22, which was upheld by Judgment No 1549 of 7 February 2017 in Case No 5102/2016 on the record of Bulgaria's Supreme Administrative Court; http://www.dker.bg/files/DOWNLOAD/res_c-11_17.pdf
  - Decision Ts-17 of 1 July 2017 setting the preferential prices of electricity generated from renewable sources and updating the preferential prices of electricity from biomass;
  - Decision No Ts-9 of 1 July 2018 setting the preferential prices of electricity generated from renewable sources and updating the preferential prices of electricity generated using biomass and calculating the premiums paid for electricity produced from renewable energy by plants with total installed capacity of 4 MW and more than 4 MW.

- **Rules amending and supplementing the Rules on trade in electricity (SG No 66/2013; amended and supplemented in SG Nos 39/2014; 90/2015; and 100 of 15 December 2017)[27];**

In 2017, the KEVR adopted Rules amending and supplementing the Rules on trade in electricity with the aim of establishing a legal framework for the real-time Market segment as an element of the electricity exchange. The enacted amendments improve the precision of applicable rules and clarify certain contentious points arising from practice. The supplementary provision of the Rules on trade in electricity has also been amended in order to incorporate a number of legal definitions which, in view of the specificity of the relations between the parties selling and buying electricity on the exchange, aim to enhance legal certainty for the benefit of Market participants.

In 2018, the Rules on trade in electricity were amended with a view to bringing them in line with the amendments to the Energy Sector Act and the Renewable Energy Act by the Law amending and supplementing the Energy Sector Act (SG Nos 38 of 8 May 2018 and 66 of 26 July 2013; amended and supplemented in SG No 72 of 31 August 2018)[28].

---

26 Information from the KEVR Report on activity for 2018 has been used.

27 Information from the KEVR Report on activity for 2017 has been used.

28 Information from the KEVR Report on activity for 2018 has been used.

2.b Please describe the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the regulatory framework for bearing and sharing of costs related to grid connections and grid reinforcements (for accepting greater loads). (Article 22(1)(f) of Directive 2009/28/EC)

The public relations in the area of production and consumption of electricity from renewable sources are governed by the ZEVI. They are discussed in detail in previous national reports on Bulgaria's progress in the promotion and use of energy from renewable sources.

During the reporting period a number of plants with signed preliminary contracts and contracts for the connection of producers of electricity from renewable sources as well as plants under Article 24 of the ZEVI were connected to the electricity transmission grid and the electricity distribution network.

In accordance with Article 28(1) of the ZEVI the transmission grid and distribution network operators earmark in their annual investment and maintenance programmes funds for grid development to enhance their capacity for connection, transmission and distribution of electricity for the purpose of reaching the targets and implementing the measures set out in the NPDEVI.

In 2017, Elektrorazpredelenie Yug EAD implemented the planned activities set out in the company investment and repairs programme, including activities relating to network upgrade and development in the amount of BGN 13 253 724, activities improving the security of supply in the amount of BGN 15 419 349, and activities relating to the connection of producers of electricity from renewable sources in the amount of BGN 423 265. A total of 45 contracts for the connection of producers of electricity from renewable sources were signed and 30 plants for the production of electricity from renewable sources were put into operation. As at 31 December 2017 a total of 1 273 electricity producers were connected to the electricity distribution network of Elektrorazpredelenie Yug EAD, including 8 cogeneration plants. In 2017 and 2018, a total of 179 connection contracts were concluded and 104 plants for the generation of electricity from renewable sources were put into operation. These, together with the activities implemented, are detailed in a report drawn up and submitted to the KEVR pursuant to Article 28(2) of the ZEVI and Article 58 of Regulation No 3 of 21 March 2013 on licensing of the activities performed in the energy sector. As at 31 December 2018 there were a total of 1 377 producers of electricity from renewable sources connected to the electricity distribution network of Elektrorazpredelenie Yug EAD.

In accordance with Article 30(7) of the ZEVI the KEVR received reports setting out detailed information about the cases of significant Decrease in the quantities of electricity from renewable sources transmitted and distributed and the corrective measures taken to prevent a Decrease in the quantities in question.

In 2017 and 2018, Elektrorazpredelenie Sever AD continued to implement development activities, including the reconstruction and modernisation of the electricity distribution network, with a view to enhancing its capacity to connect plants generating electricity from renewable sources.

During said period, a total of BGN 73 000 was disbursed on investment activities.

According to the concluded contracts for the connection of plants producing electricity from renewable sources to the electricity distribution network of Elektrorazpredelenie Sever AD the contracting entities of plants have an obligation to construct the facilities necessary for plant connection pursuant to Article 62(5)(2) of Regulation No 6 of 24 February 2014 on the connection of producers and consumers of electricity to the electricity transmission grid and electricity distribution network.

In 2017 and 2018, Elektrorazpredelenie Sever AD, in the capacity as operator of the electricity distribution network, did not issue any orders imposing restrictions on the production of electricity from renewable sources, except in the cases of planned outages, which were limited in number and affected a small number of producers.

During the reporting period, the Electricity System Operator EAD (ESO) implemented electricity grid development activities in the total amount of BGN 1 475 749, including activities performed under the annual investment and repair programmes, related to the transmission and distribution of electricity from

renewable sources with a view to connecting 14 plants with a total installed capacity of 81.5 MW constructed in 9 provinces across Bulgaria.

In order to connect new producers of electricity from renewable sources to the transmission grid within the perimeter of the Dobrich belt and redirecting generated electricity to Varna, activities in the total amount of BGN 1 084 976 were implemented.

Due to breakdowns and repairs the production of electricity was restricted on the grounds of Article 24(2)(1) of Regulation No 10 on the introduction of restrictions, temporary outages or restrictions on the production or supply of electricity, energy for heating and natural gas corrective measures were taken and reports setting out detailed information were drawn up pursuant to Article 30(7) of the ZEVI and Article 57 of Regulation No 3 of 21 March 2013 on the licensing of activities in the energy sector.

3. Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan (Article 22(1)(b) of Directive 2009/28/EC)

The utilisation of the potential of energy from renewable sources in Bulgaria is promoted through a system of administrative, financial, regulatory and information measures.

- **Administrative measures:**
- One-stop shop administrative measures

– The Agency for Sustainable Energy Development (AUER) has been administrating an Information Platform for Interoperability of Spatial Data and Services in relation to RES, which enables it to keep a register of the guarantees of origin of renewable energy and information about the power plants generating electricity from renewable sources. The Agency uses a web-based system for registering and processing applications, which allows the one-stop-shop registration of documents and applications, automatic distribution of document processing tasks, verifying applications, compiling quarterly and annual reports, generating orders, automated maintenance of the register, etc.

– By the adoption of the Regulation amending and supplementing Regulation No 1 on electricity price regulation of 14 March 2017, issued by the Head of the KEVR (SG No 52 of 22 June 2018) a possibility was provided for the submission of electronic applications via the single information and services web portal of the KEVR, which has lowered the administrative burden of submitting and reviewing the requisite documents.

- **Enhancing the administrative competence and capacity of officials responsible for authorisation and licensing**

Agency for Sustainable Energy Development

AUER representatives participate in the meetings of the provincial councils on sustainable development across Bulgaria and provide methodological guidance to the development of energy efficiency plans, the programmes for their implementation and programmes promoting the use of energy from renewable sources and biofuels. The Agency also provides methodological assistance to the central and local bodies of the executive branch of government and expert councils tasked with assisting the work of provincial governors and the Mayors of municipalities. A total of 205 municipalities have developed short-term/long-term programmes.

Guidelines for the development of municipal programmes promoting the use of energy from renewable sources have also been developed. The document has been published on the webpage of the AUER.

Expert assistance during the training of municipal employees in energy management and energy planning is also provided, including in the context of training energy managers from small and medium-sized enterprises in the efficient use and management of the energy economy.

AUER experts participate on a regular basis in a number of forums organised by the Mayors of municipalities and provincial governors on issues relating to energy efficiency and energy from renewable sources.

■ **Regulatory measures:**

Energy System Security Fund

By the Law amending and supplementing the ZE (SG No 38/2018, in force as from 8 May 2018) Article 36b(1) was amended to provide for the establishment of the Energy System Security Fund (FSES) responsible for the management of the funds used to cover costs

– incurred by the public provider resulting from its obligations under Article 93a and 94 stipulated by a Decision of the Commission, including for past regulatory periods;

– for providing a premium to a generating company under Article 162a and to a generating company whose generating works have a total installed capacity of 4 MW or more than 4 MW under the Energy from Renewable Sources Act, where the said premium shall be stipulated by a Decision of the Commission, including for past regulatory periods.

■ **Financial measures:**

■ Preferential prices

Preferential prices are granted solely to new power plants for the generation of electricity from renewable sources with a total capacity of up to and including 30 kW, designed to be installed on roofs and the external walls of buildings that are already connected to the electricity distribution network and are situated within the perimeter of the surrounding land plots in urban areas, and under contracts for the purchase of electricity from renewable sources generated by plants with installed capacity of 4 MW.

■ Compensation in the form of premium payments

Following the amendments to the ZE adopted in 2018 (SG No 38/2018, in force as from 8 May 2018) all producers of electricity from renewable sources operating plants with installed capacity of 4 MW and more than 4 MW sell the electricity produced on the electricity exchange and receive a premium for the quantities of electricity up to the net specific production determined. The premium is granted for the remaining effective term of the electricity purchase contract concluded.

The FSES compensates the producers of electricity from renewable sources by the payment of a premium on the basis of a dedicated contract. The premium covers the quantity of electricity produced up to the net specific production of electricity determined for each producer and used as the basis for calculation of the preferential price.

■ Programmes financing measures for the use of energy from renewable sources:

– <u>OP Innovation and competitiveness 2014-2020</u>

Under call for proposals BG16RFOP002-3.001 ‘Energy efficiency for small and medium-sized enterprises launched under Operational Programme Innovation and Competitiveness 2014-2020, in 2017 and 2018 grant assistance was provided to projects for:

- the production of electricity from renewable sources — 2 projects for the construction of photovoltaic systems have been implemented. The electricity generated is used for own consumption. The total installed capacity of the two plants is 134.09 kW; the energy savings are 162 100 kWh per year and GHG emissions savings — 132.78 tonnes per year. The total amount of the grant assistance provided to the two projects is BGN 600 258.8.
- the production of energy from renewable sources for heating and cooling — 2 projects have been implemented and energy for heating is generated from wood waste and solar power. The total installed capacity of the two plants is 588.77 kW; the energy savings are 994 118 kWh per year and GHG emissions savings — 168.66 tonnes per year. The total amount of the grant

assistance provided to the two projects is BGN 604 285.9.

– OP Environment 2014-2020

During the reporting period six projects for cogeneration of energy for heating and cooling using biodegradable waste [and] sludges from water treatment plants were implemented under Operational programme Environment 2014-2020. The total value of the projects is BGN 74 862 000. The total quantity of electricity and energy for heating expected to be is 16 219 672 kWh per year and 27 093 939 kWh per year, respectively.

– OP Regions in Growth 2014-2020 (ОПРР 2014-2020)[29]:

Priority axis 1 Sustainable and integrated urban development

Under Objective 1 'Increasing energy efficiency in the residential sector' of Investment priority 2 (4c) 'Support for energy efficiency for smart energy management and for the use of renewable energy in public infrastructure, including public buildings, and in the residential sector' a total of 10 buildings comprising 151 households were renovated and upgraded to a higher energy consumption class by 31 December 2018, resulting in an annual GHG emissions reduction by 672.20 tCO_2eq. The overall target under the 13 concluded grant agreement is 117 renovated residential buildings and an expected annual GHG emissions reduction by 6 940.60 tCO_2eq.

Under Objective 2 'Increasing the energy efficiency of public buildings' 1 public building was renovated by 31 December 2018, resulting in a Decrease in annual primary energy consumption by 244 970 kWh and GHG emissions reduction by 38.90 tCO_2eq. The overall target value under 20 concluded grant agreements is 26 renovated buildings, a Decrease in the annual primary energy consumption of public buildings by 16 274 857.92 kWh and an expected annual GHG emissions reduction by 4 609.49 tCO_2eq.

Priority axis 2 Supporting energy efficiency in focal centres in peripheral regions

Under Investment priority 1 (4c) 'Providing support for energy efficiency, smart energy management and the use of renewable energy in public infrastructure, including public buildings, and in the residential sector' a total of 64 buildings comprising 867 households were renovated by 31 December 2018 and upgraded to a higher energy consumption class, resulting in an annual GHG emissions reduction of 2 221.8 tCO_2eq. The overall target under 63 grant agreements concluded for 400 renovated residential buildings and the expected annual GHG emissions reduction is 13 237.87 tCO_2eq.

Rural Development Programme 2014—2020 (RDP)

In 2017 and 2018, a total of 24 projects were implemented under Measure 4.1 'Investment in agricultural holdings' of the RDP 2014-2020. The investments were focused on the achievement of the objectives under focus area 5C 'Facilitating the supply and use of renewable sources of energy, of by-products, wastes, residues and of other non-food raw material for purposes of the bio-economy'.

Focus area 5C aims to promote the use of RES by supporting investment in the production of energy from renewable sources for the own needs of the holding.

The total value of the projects supported in 2017 and 2018 under sub-measure 4.1 is BGN 5 153 511.81, including BGN 3 114 185.48 in grant assistance.

– Programme BG04 Energy efficiency and renewable energy (the Programme);

Under the Programme four calls for the selection of project proposals were conducted and a total of 53 projects in the total amount of more than EUR 14 million (EUR 14 140 415) were financed. The implementation of the activities under all projects financed ended on 30 April 2017.

Under Call BG04-02-03 'Energy efficiency improvement and utilisation of renewable energy in municipal and central government buildings and local heating systems', Component 2 'Measures for the

[29] Data for 2018 from the Annual report on implementation of Operational programme Regions in Growth 2014-2020 has been used.

use of renewable energy', a total of 16 projects for the use of renewable energy in municipal buildings were implemented and a total of BGN 9 520 774 in grant assistance and national co-financing were disbursed. The systems for the generation of energy for heating put in place have total installed capacity of 10 MW and a total of 3 524 tCO_2 GHG emissions were saved.

Under Call BG04-03-04: 'Production of biofuels from biomass' a total of 9 projects were implemented. Their beneficiaries are small and medium-sized enterprises. The total grant assistance and national co-financing provided is BGN 2 756 160 and the total capacity of the supported pellet plants is 26.8 tonnes per hour.

– National Programme for Energy Efficiency of Multi-family Residential Buildings

The national energy efficiency programme for multi-family residential buildings (NPEEMZhS) is an initiative to renovate multi-family residential buildings by implementing energy efficiency measures with a view to improving living conditions, ensuring heat comfort and better living environment for their residents.

The budget of the programme is BGN 2 bln. and a total of 2 022 buildings in 198 municipalities have been approved for renovation.

In 2017 and 2018, a total of 32 buildings were renovated under the NPEEMZhS and only one renovation solution did not envisage the use of renewable energy (solar and heat pumps). As a result, energy savings of 18 033 339 kWh per year and CO_2 emission savings of 8 759.21 tonnes per year are expected.

– Energy Efficiency and Renewable Sources Fund (FEEVI)[30];

The Energy Efficiency and Renewable Sources Fund functions as a financing/co-financing institution, providing low-interest loans, partial guarantees and portfolio guarantees.

In 2017, a total of 10 loan agreements for projects in the total amount of BGN 6 962.424 were signed, and the Fund granted a total of BGN 6 270 387.[31] In 2018[32], a total of 9 grant agreements were signed in the total amount of BGN 4 089 487, including FEEVI grant assistance in the amount of BGN 3 207 888.

Project grants were provided for the implementation of activities relating to the production and use of energy from renewable sources.

– National Trust Eco Fund (NDEF)[33];

In 2017 and 2018, a total of 24 projects promoting the use of electric vehicles were financed under the Investment programme for the climate. Grant assistance in the total amount of BGN 572 873.00 was provided for the purchase of 31 electric vehicles. The project beneficiaries include central government agencies and its local departments and municipal administrations.

3.1. Please provide information on ton how supported electricity is allocated to final customers for the purposes of Article 3(6) of Directive 2003/54/EC (Article 22(1)(b) of Directive 2009/28/EC).

According to Article 31(1) of the ZEVI the public provider and final retailers purchase the electricity from renewable sources generated by power plants with installed capacity of less than 4 MW at a preferential price determined by the KEVR. According to Article 36b(2) of the Energy Sector Act the FSES manages the funds and covers the costs of the premiums paid to energy producers operating plants with total installed capacity of 4 MW and more than 4 MW. The premiums payable, including for past regulatory periods, are determined by a Decision of the KEVR.

The Energy System Security Fund compensates the producers of electricity from renewable sources

30 ФЕЕВИ, https://www.bgeef.com/bg/
31 Annual report on the implementation of the National Energy Efficiency Action Plan in 2017
32 Annual report on the implementation of the National Energy Efficiency Action Plan in 2018
33 NDEF, https://ecofund-bg.org

operating plants with installed capacity of 4 MW or more than 4 MW by the payment of a premium for the quantity of electricity produced up to the net specific production of electricity determined for each producer and used as the basis for calculation of the preferential price. The contracts for compensation by means of a premium enter into force on 1 January 2019 at the latest.

The costs incurred by the public supplier on purchasing electricity from renewable sources generated by plants with installed capacity of less than 4 MW are fully compensated by the FSES.

The compensation mechanism put in place to cover the costs of supported electricity from renewable sources is funded from the revenues generated from GHG emission allowances and from the component for distributing the costs for supporting electricity from renewable sources, which forms part of the price under Article 30(1)(17) of the ZE and is paid by all final consumers connected to the electricity grid, including the electricity grid operator and the operators of electricity distribution networks, as compensation towards the costs referred to in Articles 34 and 35(2)(3) of the ZE.

- **Degree of support**
  - Based on preferential prices

The total annual support for the production of electricity from renewable sources is calculated as the difference between the cost of purchasing energy at preferential prices and the costs calculated on the basis of the average annual Market price of 70.00 BGN/MWh adopted for pricing purposes by dedicated Decisions of the KEVR on the approval of prices in the electricity sector. The Decisions in question are Nos Ts-19 of 30 June 2016; Ts-19 of 1 July 2017; and Ts-11 of 1 July 2018.

The table below sets out calculations of the total annual support for the purchase of the electricity generated from renewable sources at preferential prices and under long-term contracts. The calculations are based on the information provided by the KEVR.

Table 3: *Support schemes in place for renewable energy*

Types of source	Electricity from renewable sources purchased at preferential prices, MWh		Costs incurred by the public supplier on the purchase of electricity from renewable sources at preferential prices, thousand BGN		Difference[34], thousand BGN	
	2017	2018	2017	2018	2017	2018
HPPs with installed capacity of less than 10 MW	665 942	781 043	103 992	155 507	57 883	68 142
Wind farms	1 325 000	1 232 742	243 687	228 620	153 351	144 397
Photovoltaic plants	1 260 611	1 230 286	610 795	602 953	519 366	515 993
Electricity plants using biomass	296 897	287 376	91 764	97 351	78 589	79 953

- Compensation in the form of premium payments

The table below sets out calculations of the amount of total annual support in 2018 paid as compensation in the form of premiums to the producers of electricity from renewable sources operating plants with total installed capacity of 4 MW and more than 4 MW. The calculations are based on the information provided by the FSES.

[34] Difference between the actual costs of purchasing electricity from renewable sources at preferential prices and the average annual price of BGN 70.00 per MWh approved by Decisions Nos Ts-19 of 30 June 2016; Ts-19 of 1 July 2017; and Ts-11 of 1 July 2018

Types of source	The quantity of electricity from renewable sources sold on the electricity exchange under agreements for price compensation by means of premiums in 2018	Amount of the premiums paid under concluded agreements for price compensation by means of premiums
	kWh	BGN
Wind farms	11 531 487	480 978

4. Please provide information on how, where applicable, the support schemes have been structured to take into account RES applications that give additional benefits, but May also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material. (Article 22(1)(c) of Directive 2009/28/EC)

Preferential prices are granted solely to new power plants for the production of electricity from renewable sources with total capacity of up to and including 30 kW, designed to be installed on roofs and on the external walls of buildings already connected to the electricity distribution network and situated within the perimeter of the surrounding land plots in urban areas, and under contracts for the purchase of electricity from renewable sources generated by plants with installed capacity of 4 MW concluded before the entry into force of the Law amending and supplementing the ZE.

Following the amendments to the ZE adopted in 2018 (SG No 38/2018, in force as from 8 May 2018) all producers of electricity from renewable sources operating plants with installed capacity of 4 MW and more than 4 MW sell the electricity produced on the electricity exchange and receive a premium for the quantities of electricity up to the net specific production determined. The premium is granted for the remaining effective term of the electricity purchase contract concluded.

Information about the calculation of preferential prices is set out in previous progress reports and in points 2 and 3 of this report.

According to Article 31(8) of the ZEVI, where the investment in a power plant for the production of electricity from renewable sources is supported by funds from the national budget or by an EU support scheme, the electricity is purchased by the public provider or by the respective electricity retailer at group prices determined by the KEVR in accordance with the requirements and procedure stipulated in the Regulation referred to in Article 36(3) of the ZE (Regulation No 1 of 14 March 2017 on electricity prices regulation (SG No 25 of 24 March 2017; last amended in SG No 50 of 25 June 2019, in force as from 25 June 2019).

According to §18 of the Transitional and Final Provisions of the Law amending and supplementing the ZE (SG No 56 of 24 July 2015, in force as from 24 July 2015) the electricity generated from renewable sources by producers operating plants built with funds from a national or an EU grant scheme for which applications for support have been lodged prior to the entry into force of the ZEVI is to be purchased at the prices referred to in Article 31(8) of the ZEVI, last determined by a Decision of the KEVR (KEVR Decision No Ts-14 of 1 July 2014).

Bulgaria has set and submitted to the European Commission its national target for the consumption of new-generation fuels (fuels produced from residues such as straw, algae, grape Marc, livestock manure, sludges, etc.) of 0.05 percentage points of energy content from the mandatory share of energy from renewable sources in all types of transport to be achieved by 2020.

In order to achieve this target, the ZEVI was amended (Law amending and supplementing the ZEVI, SG No 91 of 2 November 2018), introducing an obligation, in force as from 1 April 2019, according to which all persons placing on the Market petroleum-derived liquid transport fuels are to Market fuels for diesel engines with a minimum biodiesel content of 6 volume fractions, of which at least 1 volume fraction is a new-generation biofuel. The same obligation was introduced for end distributors and for distributors of petroleum-derived liquid fuels.

5. Please provide information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system. (Article 22(1)(d) of Directive 2009/28/EC)

The requirements laid down in Directive 2009/28/EC for establishing and maintaining a system for the issuance of guarantees origin for renewable energy have been transposed into the Renewable Energy Act [35]and Regulation No RD-16-1117 of 14 October 2011 laying down the requirements and procedure for the issuance, transfer, revocation and recognition of guarantees of origin for renewable energy[36].

In 2018, the ZEVI was amended by the Law amending and supplementing the ZE with a view to enhancing the precision of the provisions governing guarantees of origin by specifying that:

– guarantees of origin are deemed to have been used when transferred to an end customer or when they have been used as evidence of the share of energy from renewable sources in the overall energy mix of the supplier;

– guarantees of origin are used exclusively to prove to an end customer that a certain share of energy in the overall energy mix of the provider or a certain quantity of electricity has been generated from renewable sources;

– guarantees of origin are transferrable, regardless of the electricity for which they were issued, but only once to an end customer.

In 2017 and 2018, the AUER[37] issued 8 039 674 guarantees of origin for electricity generated from renewable sources. In 2017, a total of 6 004 376 guarantees of origin were issued.

35 Promulgated, SG No 35 of 3.5.2011, in force as from 3.5.2011; amended in SG Nos 38 of 8.5.2018, in force from 8.5.2018; 91 of 2.11.2018; and 41 of 21.5.2019, in force as from 21.5.2019.

36 Promulgated, SG No 84 of 28.10.2011, in force as from 1.1.2012, latest amended in SG No 42 of 9.6.2015, in force as from 9.6.2015.

37 The information is based on AUER data.

6. Please describe the developments in the preceding 2 years in the availability and use of biomass resources for energy purposes. (Article 22(1)(g) of Directive 2009/28/EC)

In 2018, biomass consumption for energy purposes stood at 1 690 ktoe, which represents an increase by 28.7 % as compared to 2017. (1 313 ktoe)[38].

- Wood biomass[39];

As at 31 December 2018 forests in Bulgaria take up a total of 4 257 200 ha State-owned forests have a total area of 3 090 010 ha (72.6 % of the total), of which 2 906 435 ha are managed by the State-owned forestry estates referred to in Article 163 of the Forests Act, 172 307 ha are forests within the perimeter of national parks, nature reserves and the reserves in which maintenance activities are performed under the management of the Ministry of Environment and Water (MOSV), including the Rila National Park, Pirin National Park and the Central Balkan National Park. A total of 11 268 ha of forests have been made available for use to training and experimental forest estates. The remaining forest stock has an area of 1 050 424 ha (24.7 % of the total), of which 558 116 ha of forests are owned by municipalities, 425 246 ha are owned by natural persons, 47 167 ha are owned by legal persons, and 19 895 ha are owned by religious communities.

Agricultural areas designated as forests within the meaning of Article 2(1) of the Forests Act have an area of 116 766 ha (2.8 % of the total).

As compared to 2017, the total area taken up by forest areas increased by 13 365 ha, primarily as a result of the designation of previously unrecognised forests.

Afforested area increased by 15 770 ha up to a total of 3 893 396 ha primarily on account of inventorying previously uninventoried forests and self-afforested areas that emerged in the interval between the latest two inventories performed by forest and hunting estates in non-forested land or in abandoned tracts of land outside forest areas.

- Wood wastes[40];

In 2017, a total of 278 081 tonnes of wood waste was generated of which 248 346 t were made available to waste recovery facilities. A total of 24 152 tonnes of wood waste were disposed of and 1 627 tonnes of industrial wood waste was exported.

- Biomass from agriculture[41];

In 2017, a total of 942 877 tonnes of agricultural waste was generated, including 709 099 tonnes of animal and vegetable waste (excluding animal waste from food and product preparation) and 233 777 tonnes of livestock manure.

The biofuels used in Bulgaria (biodiesel and bioethanol) were mainly produced from cereals and oilseed crops. In 2018, biodiesel produced from used cooking oil and biodiesel produced from biomass fraction in industrial waste not used in the food and feed chain was used.

- Waste[42].

In 2017, a total of 3 080 000 tonnes of household waste was generated. Since 2011 the quantities of household generated have been relatively constant. A total of 1 789 000 tonnes of household waste were handed over for pre-treatment and 149 000 tonnes were used for recycling.

The annual quantity of generated household waste per person is 435 kg.

In 2018, a total of 36 ktoe of landfilled waste was used in sub-sector Manufacturing of products from

38 Based on information from the energy balances for 2017 and 2018; National Statistical Institute.

39 Agrarian reports for 2018 and 2019, MZHG.

40 NSI data has been used.

41 NSI data has been used.

42 NSI data has been used.

other non-metallic mineral raw materials.

Biogas production from anaerobic fermentation of biomass and from sewage sludge is still negligible. In 2017 and 2018, gross domestic consumption of biogas stood at 47 ktoe and 50 ktoe, respectively. Biogas is used in electricity and energy for heating, in the Agriculture sector and in sector Other services activities.

Information about the use of biomass is set out in Tables 4 and 4a.

Table 4: *Supply of biomass for energy use*

	Amount of domestic raw material (*)		**Primary energy in domestic raw materials (ktoe)**		**Amount of imported raw materials from the EU (*)**		**Primary energy in imported raw materials from the EU (ktoe)**		**Amount of imported raw materials from non-EU countries (*)**		**Primary energy in imported raw materials from non-EU countries (ktoe)**	
	2017	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**
Biomass supply for heating and electricity generation:												
Direct harvesting of wood from forests and other forest areas intended for energy generation (logging etc.)**[43], m^3	4 565 264	4 357 710										
Indirect supply of wood biomass (residues and co-products from the wood industry, etc.) **, t												
Agricultural by-products / processed residues and fishery by-products**, TJ												
Biomass from waste (household, industrial etc.)**, TJ												
Energy crops (grasses, etc.) and short rotation trees (please specify main types)[44], m^3	256 411	275 827										
Other types of biomass (please specify)												
Biomass supply for energy use in transport:												
Use of common arable crops for biofuels (please specify main types)												
Energy crops (grasses, etc.) and												

[43] Source of information: Executive Agency for Forests

[44] Source of information: Eurostat data provided by the Executive Agency for Forests (IAG).

	Amount of domestic raw material (*)		Primary energy in domestic raw materials (ktoe)		Amount of imported raw materials from the EU (*)		Primary energy in imported raw materials from the EU (ktoe)		Amount of imported raw materials from non-EU countries (*)		Primary energy in imported raw materials from non-EU countries (ktoe)	
	2017	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**
short rotation trees for biofuels (please specify main types)												
Others (please specify)												

If possible, the quantity of resources should be expressed in m^3 for the forestry biomass and in tonnes for the biomass from agriculture, fishing and for the biomass from waste.

**Determining this type of biomass should be understood in compliance with Table 7 in Section 4.6.1 of Commission Decision C (2009) 5174 final establishing a template for National Renewable Energy Action Plans under Directive 2009/28/EC

Table 4a: *Current domestic agricultural land use for production of crops dedicated to energy production (ha)*[45]

Arable land use	Surface (ha)	
	2017	**2018**
1. Land used for common arable crops (wheat, sugar beet etc.) and oil seeds (rapeseed, sunflower etc.). (Please specify main types)	2 223 342	2 193 323
2. Land used for short rotation trees (willow, poplar). (Please specify main types)		
3. Land used for other energy crops such as grasses, sorghum.		

45 On the basis of data published by the MZHG

7. Please provide information on any changes in biomass-based commodity prices and land use within your Member State in the preceding 2 years associated with increased use of biomass and other forms of energy from renewable sources. *Please provide where available references to relevant documentation on these impacts in your country. (Article 22(1)(h) of Directive 2009/28/EC)*[46][47]

In 2018, the total land intended for agricultural purposes[48] was 5 226 194 ha (approximately 47 % of Bulgaria's total territory), which represents a Decrease by 0.03 % as compared to 2017. (5 224 402 ha). During the period covered by the report the total agricultural land[49] in use remained almost unchanged (5 030 276 ha in 2018 as compared to 5 029 529 ha in 2017). The total arable land[50] in use was 3 463 370, which represents a Decrease by 0.3 % as compared to 2017. (3 473 825 ha).

The production of rye, grain maize and rice in 2018 increased as compared to 2017. The production of all other basic cereals Decreased as a result of the following inclement weather conditions: frostbite, torrential rains in the spring, floods, hail and drought. A similar trend was observed in the average yields of all basic cereals, except grain maize and rice, which registered an increase.

The tables below set out information about the production of cereals and oilseed crops in 2017 and 2018.

46 Information set out in the Annual report on the state of play and development of agriculture (Agrarian report 2018) of the MZHG has been used.

47 Information set out in the Annual report on the state of play and development of agriculture (Agrarian report 2019) of the MZHG has been used.

48 The land intended for agricultural purposes comprises arable land, permanent crops, permanent grasslands for agricultural purposes (incl. high-mountain pastures and low-productivity grasslands), family orchards and agricultural land not cultivated for more than five years.

49 The agricultural land in use comprises of arable land, permanent crops, nurseries, permanent grassland and family orchards.

50 Arable land includes the plots used for crop rotation, temporary meadows with grasses of the families *Gramineae* and *Fabaceae*, land laying fallow and greenhouses.

Crop	Harvested areas (ha)			Average yield (t/ha)			Production (t)		
	2017	2018	Change 2018/2017	2017	2018	Change 2018/2017	2017	2018	Change 2018/2017
Triticum	1 144 519	1 212 012	5.9 %	5.36	4.81	-10.3 %	6 132 671	5 832 449	-4.9 %
Rye	8 237	8 316	1.0 %	2.10.	1.66	-21.0 %	17 304	13 776	20.4 %
Triticale	18 660	15 171	-18.7 %	3.17	2.66	-16.1 %	59 140	40 306	-31.8 %
Barley	128 365	103 570	-19.3 %	4.64	4.22	-9.1 %	595 237	437 507	-26.5%
Oats	13 266	11 339	-14.5 %	2.40	2.14	-10.8 %	31 849	24 308	-23.7 %
Grain maize	398 152	444 623	11.7 %	6.44	7.82	21.4 %	2 562 569	3 478 013	35.7 %
Oryza sativa	10 434	11 004	5.5 %	5.61	5.76	2.7 %	58 523	63 414	8.4 %
Sunflower	898 844	788 656	- 12.3 %	2.29	2.44	6.6 %	2 056 987	1 927 040	-6.3 %
Rape	160 650	182 619	13.7 %	2.98	2.58	-13.5 %	478 987	471 035	-1.7 %

Source: Annual report on the state of play and development of agriculture (Agrarian report 2019), MZHG

In 2018, a total of 58 324 000 tonnes of wheat were produced, which represents a Decrease by 4.9 % as compared to 2017. This is due to inclement weather, which affected the development of crops and lowered average yield by 10.3 %. In the same year, a total of 1 217 304 ha of wheat crops were affected or 6.1 % more as compared to the previous year. A total of 1 212 012 ha out of the area affected were harvested (99.6 %), which represents an increase by 5.9 % as compared to 2017. During the same year wheat had a relative share of 67 % of the total harvested area taken up by cereal crops.

In 2018, the share of grain maize increased by 35.7 % as compared to the previous year (3 478 000 tonnes) owing to both higher yield and an increase in the area used for crop cultivation. In the same year, a total of 447 705 ha of grain maize were affected, of which 444 623 ha (an increase by 11.7 % on an annual basis) were harvested. The average yield countrywide increased by 21.4 % as compared to 2017.

In 2018, a total of 1 927 000 tonnes of sunflower were produced, which represents a Decrease by 6.3 % as compared to 2017. The reported average higher yield (by 6.6 %) partially offset the Decrease in harvested areas (by 12.3 % against 13.2 % less affected areas).

In 2018, a total of 471 000 tonnes of rape were produced, which represents a Decrease by 1.7 % compared to 2017 due to the lower yield (by 13.5 %).

In 2017 and 2018, cereals and oilseed crops had the largest share in the final output of the Agricultural sector.

In 2017, the two crops (cereals in the total amount of BGN 2 437.8 mln.and oilseeds in the amount of BGN 1 489.9) had a share of approximately half (47.7 %) of the value of total Agricultural sector output. The following horticulture crops have the largest share in the total output of the sector:

- Common wheat with a share of 18.7 % (BGN 1 538.2 million);

The output increased by 7.3 % compared to the previous year as a result of the increase in both production volumes and prices.

- Sunflower with a share of 14.1 % (BGN 1 161.7 million);

In parallel to an increase in the physical volume of sunflower by 14.1 %, prices Decreased by 16.2 %, meaning that the value of the product Decreased by 4.4 % as compared to the previous year.

- Grain maize with a share of 8.2 % (BGN 672.0 million);

Regarding grain maize, the value of final production increased by 6.4 % as compared to the previous

year as a result of the significant increase in production (by 13.6 %) against a price Decrease by 6.4 %.

- Rape and colza — with a share of 3.8 % (BGN 315.5 mln.), which represents a Decrease by 3.2 % as compared to the previous year.

Against an insignificant price Decrease by 0.2 %, the change in the value of rape and colza final production in 2017 was consistent with the rate of Decrease in physical volume by 2.9 %.

In 2018, cereals and oilseed crops had the largest share in Agricultural sector output value. In 2018, cereals (with a value of BGN 2 823.6 mln. and oilseeds with a value of BGN 1 392.4 mln.) had a share of approximately half (49.8 %) of the total value of Agricultural sector output.

In 2018, the following horticulture crops had the largest share in the total output of the sector:

- Common wheat with a share of 19.8 % (BGN 1 671.3 mln.);

Output increased by 8.7 % as compared to the previous year as a result of 9.7 % (against a Decrease in physical volume by 0.9 %).

- Sunflower with a share of 12.7 % (BGN 1 076.2 million);

The physical volume and prices of sunflower Decreased by 7 % and 0.4 %, respectively, resulting in an output value Decrease by 7.4 % as compared to the previous year.

- Grain maize, a share of 11.2 % by BGN 948.5 million;

Regarding grain maize, the output value increased significantly by 41.1 % on an annual basis as a result of both physical volume and prices increasing by 34.7 % and 4.8 %, respectively.

- Rapes and colza had a share of 3.7 % (BGN 310.4 mln.), which represents a Decrease by 1.6 % as compared to the previous year.

Against a price increase by 0.2 % in the previous year, the change in rape and colza output value in 2018 was consistent with the rate of Decrease of the physical volume by 1.8 %.

The table below sets out the price indices per producer per year (2015=100) for crops that May be used for energy purposes.

No	Items	2015	2016	2017	2018
1	Cereals	100.0	92.2	93.4	100.4
2	Wheat - total	100.0	87.9	91.1	100.4
3	Common wheat	100.0	88.0	91.1	100.6
4	Durum wheat	100.0	82.4	94.1	85.7
5	Rye	100.0	106.5	102.8	99.9
6	Barley	100.0	88.5	89.6	96.5
7	Oats	100.0	97.9	89.1	80.5
8	Zea Mays	100.0	102.1	99.9	102.4
9	Rice in the husk (paddy or rough):	100.0	78.7	73.2	80.7
10	Other cereals	100.0	89.6	97.3	102.4
11	Industrial crops	100.0	97.7	89.5	83.7
12	Oil seeds	100.0	98.3	89.3	84.5
13	Colza or rape seeds	100.0	99.6	97.4	98.7
14	Sunflower seeds	100.0	98.4	87.6	81.3
15	Soy	100.0	67.8	68.9	65.4
16	Other perennial essential and oilseed crops	100.0	100.0	100.0	100.0

Source:*NSI data*

The table below sets out information about the prices of agricultural products (according to Eurostat's Handbook for EU agricultural price statistics), along with a breakdown per producer price for the period 2016-2018. The crops included in the table May be used for energy purposes.

	Items	Unit of measurement	2016	2017	2018
1	Common wheat	BGN/tonne	274.9	287.5	304.7
2	Durum wheat	BGN/tonne	319.3	314.2	301.1
3	Zea Mays	BGN/tonne	278.6	285.2	279.8
4	Colza or rape seeds	BGN/tonne	681.4	646.7	661.0
5	Sunflower seeds	BGN/tonne	696.5	629.7	569.0

Source:*NSI data*

According to the data published by the Executive Agency for Forests the average weighted indices for the period 1 April 2017 – 31 March 2018 as compared to the period 1 April 2016 – 31 March 2017, calculated on the basis of the average weighted change in the reported prices and the reported quantities of wood sold as live trees and timber harvested within the perimeter of forest areas within the perimeter of State-owned forest estates, are as follows:

- the price variation index for coniferous pulpwood and coniferous firewood during the last twelve-month period is 97.4 % as compared to the previous twelve-month period (index 100);
- the price variation index for Deciduous pulpwood and Deciduous firewood during the last twelve-month period is 105.1 % as compared to the previous twelve-month period (100);

The average price variation index of pulpwood and firewood for the period 1 April 2017 – 31 March 2018 as compared to the period 1 April 2016 – 31 March 2017 is 102.1.

The following variation was observed in the average weighted indices for the period 1 April 2018 – 31 March 2019 as compared to the period 1 April 2017 – 31 March 2018:

- the price variation index for coniferous pulpwood and coniferous firewood during the last twelve-month period is 104.5 % as compared to the previous twelve-month period (index 100);
- the price variation index for Deciduous pulpwood and Deciduous firewood during the last twelve-month period is 110.5 % as compared to the previous twelve-month period (100);

The average price variation index of pulpwood and firewood for the period 1 April 2018 – 31 March 2019 as compared to the period 1 April 2016 – 31 March 2017 is 108.1.

8. Please describe the development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material (*Article 22(1)(i) of Directive 2009/28/EC*)

■ **Evaluation of the resources for the production of new-generation biodiesel:**

■ Waste oils in Bulgaria[51];

In 2016, a total of 31 416 tonnes of waste oils were generated in Bulgaria, including:

- Waste oils from households — 18 204 t;
- Waste oils from the services sector — 2 497 t;
- Waste oils from the food processing and tobacco industry — 28 t;
- Waste oils from trading in waste and scrap metal — 1 809 t.

The data shows the relatively low share of waste oils, submitted as such in the food industry, services sector (incl. public restaurants) and households.

■ Generated as waste[52]:

- Animal and vegetable wastes — 972 685 t;
- Animal and mixed food waste — 208 460 t;
- Vegetable waste — 352 647 t;
- Livestock manure — 411 578 t;

■ Waste cooking oil;

Using data about cooking oil consumption by the population and the industry (450 kt per year in 2011), a reasonable assumption was made that waste oil is 15 % of the annual quantity consumed or 67.5 kt[53].

In 2018, the average annual consumption of sunflower oil per household member was 12.0 l and that of Margarine and other vegetable oils – 0.9 kg. It has been estimated that household waste oil is approximately 12.2 kt and that the total quantity of waste oil from the catering industry is 56 000 m^3 or 5.2 kt.

■ Waste Hydrogenated Vegetable Oils (HVO)56.

No research of the production of HVOs from waste oil has been undertaken for Bulgaria. Taking into account the overall annual potential of 1.5 Mt at EU level (IGU & UN ECE, 2012), the annual potential at national level is estimated at several tens of thousands of tonnes.

■ **Evaluation of the resources available for the production of new generation bioethanol**

There is No production of new-generation bioethanol in Bulgaria nor have investors expressed interest in such production.

The table below sets out the waste (residue) from agricultural crops harvested in Bulgaria in 2018 and the potential for the production of bioethanol from these crops. The table includes only crops produced in significant quantities (more than 100 kt) that generate significant quantities of waste. The calculations are based on the assumption of a residue utilisation rate of 50 %.

---

51 Eurostat data, 2019Eurostat data, 2019

52 Eurostat data, 2019

53 Analysis of the possibilities for the production of new-generation biofuel and other renewable sources in transport and determining an indicative sub-target for the consumption of new-generation biofuels in transport for the needs of the Ministry of Energy, commissioned by the Ministry of Energy in order to determine the national target for minimum consumption of biofuels of a 'new generation' in transport in Bulgaria in 2020 in accordance with Article 2(2) (e) of Directive 2015/1513/EC.

Table: Agricultural crops in Bulgaria — production, waste and potential for the production of bioethanol, harvest 2018

Crops	Production of a useful product[54], t	Balance to useful product ratio[56]	Balance, t	50 % use balance, t	Bioethanol, thousand m^3
Wheat and spelt	5 832 449	1.2	6 998 939	3 499 469	804 878
Barley	437 507	1.7	743 762	371 881	85 532
Grain maize	3 478 013	1.5	5 217 020	2 608 510	599 957
Rape	471 035	2.75	1 295 346	647 673	148 965
Sunflower	1 927 040	2.62	5 048 845	2 524 422	580 617
Total	**12 146 044**	**-**	**19 303 911**	**9 651 956**	**2 219 949**

The potential for the production of bioethanol from agricultural waste is estimated at approximately 2 220 thousand m^3 or 1 754 kt.

The average annual yield of wood and brushwood in Bulgaria in the period 2017 – 2018 stood at 4 472 thousand dense m^3 (not including the timber intended for the construction industry)[55]. It has been estimated that approximately 167 000 m^3 of forest waste May be used for the production of 132 kt of ethanol.

In 2017, there was No consumption of new-generation biofuels in Bulgaria. In 2018, small quantities of biodiesel from used cooking oil and biodiesel from biomass fraction in industrial waste not utilised in the food and feed chain were used in Bulgaria.

54 2019 Report on the agrarian sector

55 http://www.nsi.bg/sites/default/files/files/publications/StatBook2019.pdf

Table 5: Newly developed types of biofuels

Biofuels from resources specified in Part A of Annex IX to Directive 2009/28/EC	**2017**	**2018**
(a) Algae cultivated on land in ponds or photo-bioreactors;	0	0
(b) Fraction of biomass in mixed household waste, but not in particular household waste subject to recycling according to the objectives pursuant to Article 11(2)(a) of Directive 2008/98/EO	0	0
(c) Biological waste pursuant to the definition in Article 3(4) of Directive 2008/98/EC of households, subject to separate collection pursuant to the definition in Article 3(11) of the same directive	0	0
(d) Fraction of the biomass in industrial waste, not subject to use in the chain of food products or feed, incl. materials from wholesale and retail commerce, from the agri-food industry, fishing and aquacultures, but without the resources, specified in Part B of Annex IX;	0	11.25
(e) Straw	0	0
(f) Animal manure and sludge from wastewater treatment;	0	0
(g) Palm oil mill effluent and empty palm fruit bunches;	0	0
(h) Tall oil pitch;	0	0
(i) Crude glycerine;	0	0
(j) Remains of sugarcane (bagasse)	0	0
(j) Grape Marc and wine lees;	0	0
(k) Nut shells;	0	0
(l) Husk	0	0
(m) Cobs cleaned of kernels of corn;	0	0
(n) Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, cultivation logging, leaves, needles, treetops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil.	0	0
(o) Other non-food cellulosic materials according to the definition in Article 2(2)(s) of Directive 2009/28/EC;	0	0
(p) Other ligno-cellulosic materials according to the definition in Article 2(2)(r) of Directive 2009/28/EC, with the exception of wood trunks and veneer trunks;	0	0
Biofuels from resources specified in Part B of Annex IX of Directive 2009/28/EC	**2017**	**2018**
(a) Used cooking oil	0	42.26
(b) Animal fats, classified in categories 1 and 2 in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council	0	0

9. Please provide information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within your country in the preceding 2 years. Please provide information on how these impacts were assessed, with references to relevant documentation on these impacts within your country. (Article 22 (1)(j) of Directive 2009/28/EC)

Within the procedure for the issuance of Environmental Assessment Opinion No 1-2/2012 of 12 August 2012 in respect of the NPDEVI an Environmental Assessment Report and a Report setting out an assessment of compliance with the object and aims of conserving protected areas have been drawn up. The Environmental Assessment Report in respect of the NPDEVI reviews the potential effects of implementing existing RES technologies, including biofuels (bioethanol and biodiesel) in transport, on environmental components. These are set out in detail in previous progress reports and were assessed as having an overall insignificant impact

The impact of the generation of energy from renewable sources, including the production of biofuels, on the components of the environment is monitored by various bodies under the jurisdiction of the MOSV within their respective areas of competence in accordance with the Environment Protection Act (ZOOS) and applicable bylaws thereto. In accordance with the annual monitoring plans checks to verify compliance with the requirements laid down in environmental legislation, the conditions for issued environmental impact assessment (EIA) reports and the integrated permits for the respective sites are performed by the departments of the Regional Inspection Service for the Environment (RIOSV).

Information about the degree of impact of the factors leading to contamination and harming the environment is set out in the regional annual reports on the state of the environment, which are drawn up and published by the RIOSV on the basis of overall monitoring activity and the controls performed by each department.

The annual reports drawn up by the 16 local departments of the RIOSV for the reporting period do not contain any information about ascertained harmful impacts or new circumstances relating to impact on biodiversity as a result of the production of biofuels for transport and other liquid fuels from biomass.

The monitoring and control of the impact on the environment during the course of implementation of the NPDEVI are performed on the basis of the measures and indicators stipulated in the Environmental Assessment Opinion on the NPDEVI set out in Annex 1 to this report.

10. Please estimate the net greenhouse gas emission savings due to the use of energy from renewable sources. (Article 22 (1)(k) of Directive 2009/28/EC)[56]

■ **Electricity**

The net reductions in greenhouse gas (GHG) emissions attributable to the use of electricity from renewable sources were estimated by applying a carbon emission factor for electricity calculated on the basis of the fuel types, their calorific values and their contribution to annual electricity output in 2017 and 2018.

The calculated values for the emission factors for 2017 and 2018 were:

– for 2017 — 0.5158 tCO^2 eq/MWh; and

– for 2018 — 0.4605 tCO^2 eq/MWh.

In 2017 and 2018, the net reduction in GHG emissions as a result of the increase of the share of energy from renewable sources in electricity generation reached 3 775 549 tCO^2eq and 4 204 668 tCO^2eq, respectively. Expressed as a percentage, the savings stood at 15.1 % in 2017 and 18.8 % in 2018.

■ **Energy for heating and cooling**

Reductions in GHG emissions attributable to the use of heat from renewable sources (solid and gaseous

56 The estimations have been made by the MOSV

biomass) were estimated by applying comparative values, validated across the EU, for emissions generated by the use of fossil fuels (fossil fuel comparators) in the production of heat and electricity, as specified in the Report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling.

Reductions in GHG emissions attributable to the replacement of fossil fuels with solid and gaseous biomass in the production of heat are calculated according to the following formula:

Reductions (savings) = (ECF(h,el,c) – ECh,el,c)/ ECF(h,el,c), where:

– ECh,el,c is the overall emissions value for generating the quantity of energy for heating and cooling or for the electricity generated using biomass;

– ECF(h,el,c) is the overall emissions value for generating the relevant quantity of energy for heating and cooling energy or electricity generated using mineral fuels.

In this case, the recommended fossil fuel comparator is ECF(h,el,c) = 87 gCO^2 eq/MJ Traditionally, tree species with a typical default value 1 gCO^2eq/MJ are used as an analogue for biomass in Bulgaria.

The comparative calculations were made for two scenarios, each with a different percentage of fossil fuel contribution to heat generation (as per the table below) in order to estimate the GHG emissions upon the replacement of these fuels with biomass.

Table: *Share of fossil fuels in total generation of energy for heating*

Sources for replacement	Fuel type, %	Fuel type, %
Coal	40	45
Methane gas	30	25
Electricity	15	20
Naphtha	15	10
Total	**100**	**100**

The calculated GHG emissions at these ratios result in the following the values for the fossil fuel comparator:

– for the first scenario — ECF(h,el,c) = 81.95 gCO^2eq/MJ; and

– for the second scenario — ECF(h,el,c) = 85.00 gCO^2eq/MJ.

The percentage reduction of GHG emissions attributable to replacing fossil fuels with biomass in the production of energy for heating and cooling stood at 27.55 % in 2017 and 29.33 % in 2018.

The net reductions in GHG emissions achieved by the use of energy from renewable sources or heating and cooling stood at 4 425 991 tCO^2eq in 2017 and 4 843 631 tCO^2eq in 2018 (details are given in Table 6).

The greatest reductions in GHG emissions were clearly achieved in biomass used for the generation of energy for heating, followed by renewable sources used for electricity generation.

■ **Transport sector**

In 2017 and 2018, there was an increase in the consumption of biofuels in transport as compared to 2016, leading to a reduction in GHG emissions from the use of energy from renewable sources in transport. There was a negligible increase in the share of electricity from renewable sources, meaning that the reductions in GHG emissions were at levels similar to those in 2016 and 2017.

Table 6: Estimated reductions in GHG emissions from the use of energy from renewable sources (tCO^2eq)

Environmental aspects	2017	2018
Total estimated net GHG emission saving from the use of energy from renewable sources[57]	8 430 343	9 319 873
Estimated net GHG saving from the use of renewable electricity	3 775 549	4 204 668
Estimated net GHG saving from the use of renewable energy in heating and cooling	4 425 991	4 843 631
Estimated net GHG saving from the use of renewable energy in transport	228 803	271 575

57 The contribution of gas, electricity and hydrogen from renewable energy sources should be reported by final use (electricity, heating and cooling or transport) and only be counted once towards the total estimated net GHG savings.

11. Please report on (for 2017 and 2018) and estimate (for the following years up to 2020) the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020 (Article 22 (1)(l) and (m) of Directive 2009/28/EC)

According to the indicative trajectory of the growth of energy from renewable sources set out in the NPDEVI (Table 3) in 2017 and 2018 Bulgaria should have achieved 13.7 % share of the energy from renewable sources in gross final consumption of energy. Table 1a shows that in 2017 and 2018 the actual share of energy from renewable sources the gross final consumption achieved was higher and stood at 18.70 % and 20.49 %, respectively. Table 3 of the NPDEVI shows that the quantity of energy from renewable sources consumed in Bulgaria in 2017 and 2018 was estimated at 1 459 ktoe. In reality, gross final consumption of energy from renewable sources stood at 2 037.8 ktoe in 2017 and 2 226.1 ktoe in 2018. Data shows that in 2017 and 2018 there was an excess in the production of energy from renewable sources of 578.8 ktoe and 767.1 ktoe, respectively.

In 2019 and 2020, Bulgaria expects to reach the share of energy from renewable sources in gross final consumption of 14.8 % and 16 %, respectively as per the indicative growth trajectory set out in the NPDEVI, which May result in an excess of energy generated from renewable sources.

Table 7: *Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory of the production of energy from RS, which could be transferred to/from other Member States and/or third countries in Bulgaria (ktoe)*[58] [59]

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actual value/estimate of the excess or deficit in energy generated from renewable sources (please provide data separately for the different types of renewable energy and depending on origin/destination on import/export)	361.7	348.00	519.76	629.91	592.96	602.46	683.4	578.77	767.11	411	341

11.1. Please provide details of statistical transfers, joint projects and joint support scheme Decision rules.

During the period 2017–2018 Bulgaria did not use the possibility to make statistical transfers, implement joint projects and joint support schemes.

This report sets out information about the achievement by Bulgaria of the target for 2020. This is a possibility for making statistical transfers to Member States experiencing a deficit of energy from renewable energy for the achievement of the mandatory national targets.

12. Please provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates. (Article 22 (1)(n) of Directive 2009/28/EC)

Information about the method used to estimate the share of biodegradable waste for the period 2015-2020 is set out in previous reports on progress and in particular in the Second National Report on

58 Please report excess/deficit in the two years preceding the year of the report using actual values, respectively estimates for the following years until 2020. In each report the Member State May correct the data of the previous reports.

59 When filling in the table, please Mark the shortage of production using negative numbers (e.g. – ktoe).

Bulgaria's Progress in the Promotion and Use of Energy from Renewable Sources (VNDNBNIEVI).

During the reporting period the Methodology for determining the morphological composition of household waste was applied. The methodology has been published on the web site of the MOSV (http://www.moew.government.bg/bg/otpaduci/bitovi-otpaduci/) and ensures a single approach to determining and estimating the quantity and morphological composition of household waste, with a view to assisting all stakeholders (government institutions, municipalities, recycling organisations, etc.) in the long-term planning of processes in the area of waste management.

The Manual on the management of bio-waste in the Republic of Bulgaria has been published on the website of the MOSV. It is used as a tool, which supports the development of an overall system for the management of bio-waste, including the development and establishment of systems for separated bio-waste collection, standardisation of bio-waste treatment processes, and the development of a Market for compost, including compost quality standards.

The requirements for the activities relating to separated bio-waste collection are currently laid down in the Regulation for separated bio-waste collection and treatment of biodegradable waste (SG No 11 of 31 January 2017; amended and supplemented in SG No 47 of 5 June 2018).

13. Please specify the quantities of shipped biofuels and the not shipped bioliquids in units of energy (ktoe), which correspond to each category of the groups of resources, specified in part A of Annex VIII, reported by this member state , in view of achieving the targets, laid down in Article 3(1) and (2) and first subparagraph of Article 3(4).

In 2017 and 2018, the entire available quantity of biofuels (biodiesel and bioethanol) was used in road transport. The table below sets out information about the consumption of all conventional fuels, including those that do not meet the sustainability criteria.

Groups of resources	2017	2018
Grain-wheat crops and other crops, rich in starch, ktoe	26.65	28.59
Sugar crops, ktoe		
Oilseeds, ktoe	139.59	135.03

REPUBLIC OF BULGARIA

MINISTRY OF ENERGY

Annex 1

Report on
the monitoring and control of the impact
on the environment of NPDEVI implementation in accordance with Environmental Assessment Opinion No 1-2/2012 of 8 August 2012

Regarding the measures and conditions for preventing, reducing and eliminating as fully as possible suspected adverse effects of the implementation of the NPDEVI:

A. General measures:

The construction of power plants for the generation of energy from renewable sources is subject to a positive outcome of dedicated procedures envisaged environmental legislation.

The investment proposals for projects that require an environmental impact assessment/environmental assessment (EIA/EA) and an assessment of compatibility with the object and aims for conservation of protected areas are approved after the issuance of a Decision confirming that the proposal has been co-ordinated with the competent environmental authorities and that the recommendations given on the basis of the assessments conducted and the conditions stipulated in the relevant Decision have been taken into account.

According to the Spatial Development Act electricity plants, including plants generating electricity from renewable sources, are commissioned on the basis of a dedicated permit issued by the National Construction Control Directorate (DNSK) in compliance with the requirements and procedure stipulated in a regulation issued by the Minster for Regional Development and Public Works, including the issuance of an opinion on whether the project requires an EIA to be conducted.

The issuance of a permit authorising the use of a power plant is conditional upon project compliance with the construction requirements stipulated in administrative Decisions that have become effective. The requirements in question, depending on the type and size of the constructed facility, are a condition precedent for allowing construction under the Environment Protection Act (ZOOS), the Cultural Heritage Act or other special laws. In addition, project compliance must be ensured with any measures and other conditions stipulated in the abovementioned administrative Decisions.

Furthermore, according to Article 148(8) of the Spatial Development Act any environmental impact assessment (EIA) Decision that has become effective or opinion that an EIA is not required, as well as safety report approval granted in respect of the construction or redevelopment of an upper-tier facility and/or installation or parts thereof in accordance with the procedure established by the Environmental Protection Act, must be annexed to the construction permit and forms an integral part thereof.

According to Article 2(5) of Regulation No 6 of 24 February 2014 on connecting clients to the electricity transmission grid or the electricity distribution network the contracts for the connection of power plants generating

electricity from renewable sources to the transmission grid/distribution network are concluded following investment project approval and the issuance of a permit for the construction or conversion of the plant to be connected, when obtaining such approval/permit is a mandatory requirement under the Spatial Development Act.

According to the information obtained from the MOSV in 2017 and 2018 the following opinions on the need to conduct EIA/EA (in accordance with the procedures stipulated in Chapter Six of the ZOOS) and assessments of the compliance of investment proposals/plans, programs or projects for the construction of power plants generating energy from renewable sources with the object and aims of conserving protected areas (in accordance with the procedures stipulated in the Biodiversity Act) were issued:

- **EIA Decisions issued in accordance with the procedure stipulated in Chapter Six of the ZOOS and assessment reports on the compliance of investment proposals/plans, programs or projects for the construction of power plants generating energy from**

renewable sources with the object and aims of conserving protected areas issued in accordance with the procedures stipulated in the Biodiversity Act:

■ Issued EIA Decisions (in accordance with the procedures stipulated in Chapter Six of the ZOOS):

- Decision No VA-62/PR/2018 in respect of an investment proposal (IP) to increase the quantities of waste with EWC Code 02 03 99 subject to reclamation at an existing steam boiler plant from 250 tonnes per year to 15 000 tonnes per year. The plant is situated in Plot No 36419.189.18 with an area of 13 869 m^2 within the boundaries of Karapelit Village, Dobrich Province. Contracting entity: Klas Olio AD;
- Decision No VA-128/PR/2018 in respect of an investment proposal to increase the internal capacity of the plant for processing, dehulling, pressing and extracting oils from oilseed crops from 290 tonnes per 24 hours to 1 000 tonnes per 24 hours, comprising oilseed storage silos for and storage tanks for cooking oil. The plant is situated in Plots Nos 61741.18.17 and 61741.19.12 within the boundaries of Razdelna Village, Beloslav Municipality, Varna Province. Contracting entity: Oliva AD.
- Decision No VA-92/PR/2018 in respect of an investment proposal for the construction of a site for the separation of household waste with follow-up reclamation and generation of energy from alternative sources. The site is situated in Plots Nos 55110.60.83 and 55110.60.84 within the boundaries of Padina Village, Devnya Municipality, Varna Province. Contracting entity: EcoSafe OOD. The plant will generate energy from alternative sources and will have a capacity for the reclamation of 75 tonnes of waste per day.
- Decision No VR-5-PR/2017 of 23 February 2017 setting out a negative opinion on the need to conduct an EIA in respect of an investment proposal for the construction of the Popovitsa run-of-river small hydropower plant along the Iskar River, within the boundaries of the villages Tsarevets and Staro Selo, Mezdra Municipality, and Sinyo Bardo Village, Roman Municipality, with the following parameters at the IP stage: a plant comprising a turbine and other hydropower equipment with total installed capacity of 3 405 kW; and an area of 13.51 ha (total area of submerged reservoir from the hydroelectric unit at maximum water level);
- Decision No PV-140-PR/2017 setting out a negative opinion on the need to conduct an EIA in respect of an investment proposal to expand the raw materials base of an existing power plant using biomass with a nominal capacity for electricity generation of 1.5 MW and nominal capacity for the generation of energy for heating of 1 MW, situated in Plot No 73242.172.115 within the boundaries of Trud Village, Maritsa Municipality, Plovdiv Province. Contracting entity: Build Invest Sit EOOD. The Decision has been contested and a lawsuit is currently under way.
- Decision No PK-42-PR of 4 May 2017 on the need to conduct an EIA in respect of an investment proposal for the use of rice husks as fuel supplement at the existing power plant for the production of electricity and energy for heating. The plant is situated in Lot No 03592.501.1564 as shown on the Cadastral Map of Belovo, Belovo Municipality, Pazardzhik Province. Contracting entity: Rodopi AD; Letter Ref. No KD-01-3915 of 26 March 2018 drawn up pursuant to Article 2(2) of the Regulation on the co-ordination of the investment proposal for the use of broken and damaged wooden pallets (EWC code 15 01 03 — wooden packaging) as fuel supplement at the existing plant for the production of electricity and energy for heating. The plant is situated in Plot No 03592.501.1564 as shown on the Cadastral Map of Belovo, Belovo Municipality, Pazardzhik Province. Contracting entity: Rodopi AD;
- Decision No PK-43-PR of 10 December 2018 on the need to conduct an EIA in respect of an investment proposal for the construction of the Shtastlivetsa small hydropower plant for generation of electricity from renewable sources in regulated waters in the section after the equalising basin of the Aleko HPP. The plant is to be situated within the boundaries of the

villages Glavinitsa and Aleko Konstantinovo, Pazardzhik Province, Contracting entity: Konsepta EOOD;

- Decision No PK-31-PR of 21 April 2017 on the need to conduct an EIA in respect of an investment proposal for the construction of a greenhouse for vegetables in Plot No 001681 situated within the boundaries of Kalugerovo village, Lesichovo Municipality. Pazardzhik Province, Contracting Authority: Zemele Agro OOD;
- Decision No PK-71-PR of 27 October 2017 on the need to conduct an EIA in respect of an investment proposal for the purchase and installation of a solid fuel-fired boiler for the needs of the existing greenhouse constructed in Plot No 000119, Bostanite area, within the boundaries of Ivaylo Village, Pazardzhik Municipality/Province, Contracting entity: 999-Ecofruit EOOD;
- Decision No PK-72-PR of 8 November 2017 on the need to conduct an EIA in respect of an investment proposal for the expansion of a furniture making site and installation of a solid fuel fired boiler and wood drier in Plot No 55155.505.118 within the boundaries of Pazardzhik, Pazardzhik Municipality/Province, Contracting entity: Nikoletti AD;
- Decision No PK-31-PR of 26 September 2018 on the need to conduct an EIA in respect of IP 'Launch into operation of a hot-water boiler fired by solid fuel (wood cuttings) for the production of energy for heating the building of the furniture making plant in Velingrad'. The site is situated in Plot No IV-6405, quadrant 831, as shown on the Master Plan of Velingrad, Velingrad Municipality, Pazardzhik Province, Contracting entity: Pami 2 OOD;
- Decision No PK-37-PR of 6 November 2018 on the need to conduct an EIA in respect of IP Containment system for aquaculture farming in Plot No 141055 and photovoltaic installations in Plot No 141059 within the boundaries of Boshulya Village, Septemvri Municipality, Pazardzhik Province; Contracting entity: At Fish EOOD;
- Letter No PD-01-2080-(3) of 27 June 2018 in respect of investment proposal co-ordination drawn up in accordance to Article 2(2) of the Regulation on compliance assessments. Expansion of operations and increasing the types of waste treated on the site of the Sarnitsa electricity plant through use of waste biomass. The plant is situated in Plot No 061061 designated for the production of electricity, trade and service delivery, Kutlata area within the boundaries of Sarnitsa, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Eco Energy Management OOD;
- Decision No RU-12-PR/2017 in respect of IP 'Installation for electricity co-generation and indirect biomass utilisation with a capacity of 800 kW';
- Decision on the need to conduct an EIA for the construction of a small hydropower plant outside the boundaries of protected sites and special protection areas setting out an opinion that No EIA is necessary;
- Decision on the probability of an existing small hydropower plant having a significant negative impact issued for the purpose of co-ordinating the investment proposal for plant site relocation. The new site is situated within the perimeter of a protected area but does not affect any of the natural habitats subject to preservation in it.

■ Opinion on the following investment proposals issued pursuant to Article 2(2) of the Regulation on compliance assessment:

- Installation of a photovoltaic plant within the boundaries of Plot No VI-191, Quadrant 13, as shown on the master plan of Vetren Village, Silistra Municipality;
- Building a heating, ventilation and air-conditioning installation for an existing facility, installing solar panels with a capacity of 200 kW on the roof of an existing building and production site reconstruction situated in Plot No 63427.98.57 as shown on the master plan and cadastral map of Ruse;

- Installing a photovoltaic plant with a capacity of 5kW on the roof of an existing building situated in Plot No 66425.500.2200 as shown on the cadastral map and entered into the cadastral register of Silistra;
- Construction of a small photovoltaic plant with a capacity of 30 kW i Plot No XIII-150, Quadrant 13, as shown on the master plan of Popkralevo Village, Silistra Municipality;
- Investment proposal for the construction of a pellet plant from processed plant biomass from agricultural products in Plot No 103006, on a site with an area of 0.5461 ha with a designated permanent use 'Other areas taken up by manufacturing facilities and agricultural buildings intended for permanent use — agricultural land. The plot has been aggregated from several smaller plots with Nos 103002, 103003 and 103004 and is situated within the boundaries of Zarnevo Village, Tervel Municipality. Contracting entity: ET ISM-91-ISA SALI — Letter Ref. No 92-00-2063/2017;
- Investment proposal for the installation of equipment for pellet production from vegetable waste in Plot No XXVI-2119, Quadrant 14, situated within the boundaries of General Toshevo, General Toshevo Municipality; Contracting entity Ester Oil Nachevi OOD; Letter Ref. No 26-00- 473/2017;
- Building a fish farm for salmonids with a capacity of 20 000 kg per year with independent electricity supply from a photovoltaic plant mounted on a dedicated structure over the nursery and fattening ponds with a capacity of 30 kW in Plot No 051046, situated within the boundaries of Sadovo Village, Sungurlare Municipality; Contracting entity: Sadovo Aqua EOOD; The investment proposal has not been implemented.
- Building a polyethylene greenhouse for vegetable growing; 4 water boreholes and wells, purchasing and installing a pellet-fired boiler system for heating; building a photovoltaic plant with a capacity of up to 30 kW; purchasing and installing a drip hydroponic system; radiator valves; climate control and ventilation system; and a utility building in Plot No 039617, situated in Dalgata Polyana area within the boundaries of Drachevo Village, Sredets Municipality; Contracting entity: ZP Dobrina Dimitrova Kiryazova. The investment proposal has not been implemented.
- Building a water abstraction facility (driven well), installing a water tank and a photovoltaic plant with a capacity of up to 5 kW in Plot No 35691.022205 and a permanent crop drip irrigation system in Plots Nos 35691.022205 and 35691.022204, situated in Gara Laka area within the boundaries of Kamenar Village, Pomorie Municipality; Contracting entity: ZP Anna Tsvetanova Krumova. The investment proposal has not been implemented.
- Building a new storage facility for almonds and agricultural equipment on the farm, a shelter, a new administrative building, water tanks, a photovoltaic installation with a capacity of up to 30 kW and treatment plants in Plot No 005320, and a drip irrigation system in Plots Nos 005233, 005297, 005321 and 005261 in the Bademite area within the boundaries of Poroy village, Pomorie Municipality; Contracting entity: ZP Dragomila Milanova Stankova-Vlakanova;
- Decision No HA – 68/PR/2017 on an investment proposal for the construction of the Trakiets small hydropower plant under the wall of the Trakiets Reservoir, situated within the boundaries of Trakiets Village, Haskovo Municipality — Trakiets MVETs with installed capacity of 350 kW. The investment proposal has not been implemented.
- Decision No HA – 24/PR/2018 on an investment proposal for the construction of a production and storage facility for power supply systems and offices, including the installation of three wind generators and photovoltaic panels on the roofs of the buildings, and installing a compressed air system in Plot No 40909.122.173, along with a discharge system for atmospheric ground water in Plot No 40909.122.174 as shown on the cadastral map of Karzdzhali — three wind generators with a total capacity of 9.6 kW and photovoltaic panels on

the roof of the building, with a total area of 3 080 m^2 and installed capacity of 370 kWp to ensure the supply of additional electricity to the site. No information is available about IP implementation;

– Decision No 7 EO/2017 in respect of the Programme for promotion of the use of renewable energy sources in Simeonovgrad Municipality in the period 2016 –2020;

– The Blagoevgrad Regional Inspection Service for the Environment and Water (RIOSV) issued 7 letters in accordance with the procedure stipulated in Article 2(2) of the Regulation laying down the requirements and procedure for conducting assessments to verify the compatibility of plans, programmes, projects and investment proposals with the object and aims of conserving protected areas. The letters set out an assessment of the compliance of submitted investment proposals for the construction of photovoltaic installations according to which the proposals were subject to the procedure stipulated in Chapter Two of said Regulation.

– The Head of the RIOSV Pazardzhik issued the following Letters in respect of IP co-ordination in accordance with the procedure stipulated in Article 2(2) of the Regulation on compatibility assessment:

- No PD-01-1296 of 18 April 2017 in respect of an investment proposal for the launch of a line for the production of pellets from wood shavings in Plot No 6518, Cadastral Map No V-6518, Quadrant 84, as shown on the Cadastral Map of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Max Trade 2014 EOOD;
- No PD-01-2256 of 3 July 2017 in respect of investment proposal for the production of pellets from wood waste in Plot III-6602, Quadrant 831, as shown on the Master Plan of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Niki Pellets EOOD;
- No PD-01-2504 of 10 August 2017 in respect of investment proposal for production expansion — crushing, drying and pressing waste wood in Plot No 55155.8.226, situated in the Zaykovi Mandri area, as shown on the cadastral map of Pazardzhik, Pazardzhik Municipality/Province; Contracting entity: Kyuchukov i sinove EOOD;
- No PD-01-4456 of 18 January 2018 in respect of an investment proposal for the construction of an eco pellet plant in Plot No IV-2, Quadrant 2 (farmyard), as shown on the master plan of Kozarsko Village, Bratsigovo Municipality, Pazardzhik Province; Contracting entity: VVS Les 88 EOOD;
- No PD-01-851 of 14 March 2018 in respect of an investment proposal for the construction of a workshop for the production of pellets from wood biomass in Plot No 030033 within the boundaries of Semchinovo Village, Septemvri Municipality, Pazardzhik Province; Contracting entity: IM Eko Peleti EOOD;
- No PD-01-1540-(2) of 23 May 2018 in respect of an investment proposal for conversion of part of an existing building into a pellet production workshop. The building is situated in Plot No II-012149 designated intended use as a wood processing facility, Plot Identification No 56277.3.256, situated in the Uzun Dragasia area, as shown on the Cadastral Map of Peshtera, Peshtera Municipality, Pazardzhik Province; Contracting entity: ET Ali Indzhe;
- No PD-01-2098-(1) of 15 June 2018 in respect of an investment proposal for the Recovery of waste (EWC code 02 07 04) — materials unusable for consumption or processing — at a power plant for electricity generation through the indirect use of biomass with a weight component of least 60 percent of livestock manure, with an electrical input of 1.487 MW and a rated thermal input of 0.845 MW, in Plot No 000221 situated within the boundaries of Kapitan Dimitievo Village, Peshtera Municipality, Pazardzhik Province; Contracting entity: Bioen-2015 OOD;
- No PD-01-2090-(3) of 27 June 2018 in respect of an investment proposal for the purchase and installation of a technological line for the production of wood pellets with a capacity of 1.2 tonnes per hour in Plot No II-1021 with a designed use for industrial purposes, Quadrant 41,

within the boundaries of Sarnitsa, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Tefik EOOD;

- No PD-01-2132-(1) of 29 June 2018 in respect of an investment proposal for the purchase and installation of new technical equipment for the processing of wood biomass and the construction of a tracery fence in Plot No 62004.8.188, situated in the Savovitsa area, within the boundaries of Rakitovo, Rakitovo Municipality, Pazardzhik Province; Contracting entity: Delikat EOOD;
- No PD-01-2110-(4) of 13 July 2018 in respect of an investment proposal for the purchase of a technological line for the production of wooden pellets with a capacity of 1.5 tonnes per hour in Plot No 23008.3.568 as shown on the Cadastral Plan and Map of Dorkovo Village, Rakitovo Municipality, Pazardzhik Province; Contracting entity: Marinela 65 EOOD;
- Letter No PD-01-2197-(1) of 16 July 2018 in respect of an investment proposal for the purchase and installation of technical equipment for the production of pellets from round timber — wood and cellulose in Plot No 56277.501.783 as shown on the Cadastral Map and Plan of Peshtera, Peshtera Municipality, Pazardzhik Province, Contracting entity: Ravnogor Les OOD;
- Letter No PD-01-2157-(3) of 16 July 2018 in respect of an investment proposal for the supply of a wood pelleting line in Plot No 000630 within the boundaries of Sarnitsa, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Rum 2002 EOOD;
- No PD-01-2155-(2) of 16 July 2018 in respect of an investment proposal for a timber production and wood pellet workshop in Plot No 000246, situated in the Selishte area, within the boundaries of Pobit Kamak, Pazardzhik Municipality; Contracting entity: Feyzal EOOD;
- No PD-01-2156-(3) of 16 July 2018 in respect of an investment proposal for the supply [and installation] of a pellet production line in Plot No 000647 within the boundaries of Aleko Konstantinovo, Pazardzhik Municipality; Contracting entity: Rudas International EOOD;
- Letter No PD-01-2164-(1) of 17 July 2018 in respect of an investment proposal for the upgrade to increase the capacity and competitiveness of an existing workshop for the production of pellets in Plot No 096005, situated in the Kadinova Kuria area within the boundaries of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Toria 08 OOD;
- No PD-01-2196-(1) of 16 July 2018 in respect of an investment proposal to improve the competitiveness of an existing enterprise through the purchase of [equipment] for the primary processing of wood. The enterprise is situated in Plot No 032140 within the boundaries of Sarnitsa, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Sar Group OOD;
- No PD-01-2192-(1) of 17 July 2018 in respect of an investment proposal for the launch of a comprehensive system for pellet production through the primary processing of wood in Plot No 002550, situated within the boundaries of Malo Konare, Pazardzhik Municipality/Province; Contracting entity: ET Agro-Arapov-Serafim Arapov;
- Letter No PD-01-2160-(1) of 17 July 2018 in respect of an investment proposal for the installation of a pellet production line in Plot No 000628, situated in the Stopanski Dvor area within the boundaries of Sarnitsa Village, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Savina EOOD;
- Letter No PD-01-2212-(1) of 23 July 2018 in respect of an investment proposal for the installation of a new line for the production of pellets to be sold on the domestic and international Markets IN Plot No 009160, situated in the Sivek area within the boundaries of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Home Lux 2018 EOOD;
- Letter No PD-01-2218-(1) of 24 July 2018 in respect of an investment proposal for the installation of a pellet production line in Plot No 000598, situated in the Stopanski Dvor area within the boundaries of Sarnitsa Village, Sarnitsa Municipality, Pazardzhik Province;

Contracting entity: Kaplan Desi OOD;

- Letter No PD-01-2210-(1) of 27 July 2018 in respect of an investment proposal for the purchase of new machines and equipment for the primary processing of timber and pellet production in Plot No VII-1011, Quadrant 41, as shown on the plan of Sarnitsa Village, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: ET Samuil Bozov-90;
- No PD-01-2223-(1) of 27 July 2018 in respect of an investment proposal to increase the capacity for pellet production by investing in new pellet production equipment. The site is situated in Plot No XXV-Avtotrans, Quadrant 123, as shown on the plan of Septemvri, Septemvri Municipality, Pazardzhik Province; Contracting entity: Varbitsa Les Group EOOD;
- No PD-01-2233-(1) of 30 July 2018 in respect of an investment proposal for a carpentry workshop in Plot No II-925, Quadrant 40, as shown on the plan of Sarnitsa, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Edelweiss KMZ EOOD;
- No PD-01-2237-(1) of 31 July 2018 in respect of an investment proposal for the conversion of an existing building and the purchase of a pellet production line in Plot No 000664, situated in the Stopanski Dvor area within the boundaries of Sarnitsa Village, Sarnitsa Municipality, Pazardzhik Province; Contracting entity: Les Trans Stroy EOOD;
- No PD-01-2278-(4) of 3 August 2018 in respect of an investment proposal for the issuance of a permit for water abstraction from a surface reservoir (Chepinska River) within the boundaries of Varvara Village, Septemvri Municipality, and a pump station situated in Plot No 55556.110.51 as shown on the map of Patalenitsa Village, Pazardzhik Municipality/Province; Contracting entity: MVETs Lyaskovo OOD;
- No PD-01-2131-(3) of 8 August 2018 in respect of an investment proposal for the launch of a new pellet production line installed in Plot No 105053, Stopanski Dvor area, within the boundaries of Kostadinovo, Rakitovo Municipality, Pazardzhik Province; Contracting entity: Adis – 4 OOD;
- No PD-01-2242-(1) of 9 August 2018 in respect of an investment proposal for a boiler room and a woodchips and pellets production line, to be built/installed in Plot No 10450.8.106, situated in Anezitsa/Vrakyovitsa area within the boundaries of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Kronos Mebel OOD;
- No PD-01-1779-(2) of 16 August 2018 in respect of an investment proposal for waste reclamation (EWC 02 06 01 — materials unusable for consumption or processing) at a gasification facility and a plant for the cogeneration of biomass and the production of gasification fuel, situated in Plot No 56277.3.1586, Suhia Dabovik area, within the boundaries of Peshtera, Peshtera Municipality, Pazardzhik Province; Contracting entity D Franchise Ko Bulgaria AD
- Letter No PD-01-2241-(3) of 27 August 2018 in respect of an investment proposal for Pellet production workshop in Plot No 000246, Selishte area, within the boundaries of Pobit Kamak, Pazardzhik Municipality; Contracting entity: Feyzal EOOD;
- No PD-01-2323-(2) of 26 September 2018 in respect of an investment proposal for Launch of a new line for the production of pellets from wood chippings, situated in Plot No 62004.5.1307, as shown on the Cadastral Map of Rakitovo, Rakitovo Municipality, Pazardzhik Province; Contracting Authority: Bul-Les EOOD;
- No PD-01-2352-(2) of 5 October 2018 in respect of an investment proposal for the purchase of a technological line for the production of wooden pellets with a capacity of 1.5 tonnes per hour in Plot No 23008.3.568 as shown on the Cadastral Plan and Map of Dorkovo Village, Rakitovo Municipality, Pazardzhik Province; Contracting entity: Marinela 65 EOOD;
- No PD-01-2383-(1) of 16 October 2018 in respect of an investment proposal for a new pellet

production line in Plot No 10450.502.2657, Quadrant 120, as shown on the plan of Velingrad, Velingrad Municipality, Pazardzhik Province; Contracting entity: Bulles Group OOD;

– Administrative Decisions issued in respect of investment proposals, programmes or projects related to the production of energy from renewable sources:

- Decision PN 66 PR/2018 in respect of an investment proposal for the construction of a fish passage at the Beli Vito Small Hydropower Plant, Teteven;
- Decision No PN 30 PR/2019 in respect of an investment proposal for the construction of a fish passage at the Radomirtsi Small Hydropower Plant, Lukovit;
- Letter in respect of necessary actions to be taken pursuant to the ZOOS/ZBR in respect of investment proposal for the reconstruction of an existing fish passage at the water abstraction site of the Kamen Rid HPP on Letnitsa River (ongoing procedure);
- Decision No PN 30 PR/2018 in respect of investment proposal for the construction of a plant for extracting oils from oilseed crops and a photovoltaic system for the production of energy for own consumption in Plot No 138009 within the boundaries of Cherven Bryag;
- Letter issued pursuant to Article 2(2) of the Regulation on compliance assessment setting out an opinion on the investment proposal for the design and construction of a small photovoltaic plant with a capacity of 30 kW in Plot No 67324.250.285, Slivek Village;
- Letter issued pursuant to Article 2(2) of the Regulation on compliance assessment setting out an opinion on the investment proposal for the installation of photovoltaic panels to supply electricity to the fruit and vegetable production facility in Plot No 165044, Dermantsi Village;
- Letter issued pursuant to Article 2(2) of the Regulation on compliance assessment setting out an opinion on the investment proposal for the installation of photovoltaic panels to supply electricity to the fruit and vegetable production facility in Plot No 164049, Dermantsi Village;
- Letter issued pursuant to Article 2(2) of the Regulation on compliance assessment setting out an opinion on an investment proposal to move the low-voltage grid affected by the construction of a roof-mounted photovoltaic installation in Plot No XVI1-921, Quadrant 26, Iskar;
- Letter issued pursuant to Article 2(2) of the Regulation on compliance assessment setting out an opinion on an investment proposal for the reconstruction of an existing roof, replacement of a heating system and a roof-mounted photovoltaic installation for the own needs of the facility and purchasing equipment. The building is situated in Plot No XXIII-427, Dobrevtsi Village;
- Decision VR-02-PR/2010 of 28 January 2010 setting out a negative opinion on the need to conduct an EIA in respect of investment proposal for the installation of a wind generator with a capacity of 1 MW in Plot No 024018, Matochnika area, within the boundaries of Leskovets village, Oryahovo Municipality, Vratsa Province. Power plant with an installed capacity of 1 MW on an site with an area of 0.6697 ha.
- Decision VR-03-PR/2010 of 28 January 2010 setting out a negative opinion on the need to conduct an EIA in respect of investment proposal for the installation of a wind generator with a capacity of 1 MW in Plot No 033005, Nivata area, within the boundaries of Gorni Vadin village, Oryahovo Municipality, Vratsa Province. Power plant with an installed capacity of 1 MW on an site with an area of 0.99 ha.
- Photovoltaic plant with an installed capacity of 2 MW. Affected area 3.9205 ha. Decision No VR-21-EO of 8 December 2010 setting out an opinion the need to conduct an environmental assessment for the purpose of the detailed master plan and the construction project to be undertake on Plot No 500200, situated in the Selishteto area, Rogozen Village, Hayredin Municipality, Vratsa Province. The project entails the construction of a photovoltaic plant with installed capacity of 2 MW.

- Kolomonovoto photovoltaic plant with installed capacity of 21 MWp up to 26 MWp. Photovoltaic panels to be installed on a site with an area of 16 ha. Decision No VR-07-EO of 17 May 2010 setting out an opinion on the need for an environmental assessment to be conducted in respect of the detailed master plan comprising Plot No 12259.642.4, situated in the Kolomanovoto area, within the boundaries of Vratsa, Vratsa Municipality/Province, and the planned construction of the Kolomonovoto photovoltaic plant.

– Investment proposals submitted to the Smolyan RIOSV, disaggregated by contracting entity, in respect of the production of pellets used as biofuel from biomass fraction in wastes from the forestry industry and related industries (wood processing), i.e. bark, branches, wood harvested in cultivation logging, wood chippings, wood shavings, wood cuttings, etc. Investment proposals in respect of which Decisions were issued in 2018 relating to the construction of plants for the production of pellets and wood chippings developed primarily for the purpose of submitting applications for financing under the Rural Development Programme 2014-2020:

- EKO FOREST GROUP EOOD:

Pellet production plant situated in Plot No III intended for a wood processing and pellet production plant, Quadrant 200, as shown on the Master Plan of Smolyan, with a capacity of 0.50 tonnes per hour. The plant is situated outside the boundaries of Natural 2000. Decision SM-028-PR/2017 on the need to conduct an EIA

- Dzhinev-2014 EOOD;

Pellet plant with a capacity of 0.20 tonnes per hour in Plot No XVII, Quadrant 76, within the boundaries of Satovcha Village, Blagoevgrad Province. The plant is situated outside the perimeter of the Natura 2000 protected area. Decision SM-031-PR/2017 on the need to conduct an EIA.

- Edel – B EOOD;

Pellet plant with a capacity of 0.20 tonnes per hour, situated in Plot No 67653.926.299 as shown on the Cadastral Map and Plan of Smolyan. The plant is situated outside the perimeter of the Natura 2000 protected area. Decision SM-034-PR/2017 on the need to conduct an EIA.

- VEVA GROUP EOOD, Dospat;

Conversion and change in the designated use of a carpentry workshop, forming part of an existing pellet plant, building an open-air storage facility for timber and transport infrastructure and landscaping within the perimeter of the carpentry workshop site, situated in Plots Nos 5462.202.4 and 05462.202.16 as shown on the Cadastral Map and Plan of BoriNo Village, BoriNo Municipality, Smolyan Province. The plant has a capacity of 2.0 tonnes of pellets per hour and is situated outside the boundaries of PA BG0001030 Zapadni Rodopi within the perimeter of Natura 2000. Decision SM-02-OS/2018 setting out a negative opinion on the need to conduct an assessment of the potential negative impact [of the investment proposal of the contracting entity]

- GlogiNo Bioenergy EOOD in respect of

a pellet production plant, situated in Plot No 20.229 as shown on the Plan of the Valchan Dol Village, Banite Municipality, Smolyan Province, with a capacity of 1 tonne per hour. The plant is situated outside the perimeter of SAC BG0001031 Rodopi Sredni within the boundaries of Natura 2000. Decision SM-013-PR/2018 on the need to conduct an EIA.

- Evtimov EOOD, Smolyan;

Pellet plant with a capacity of 0.50 tonnes per hour, situated in Plot No 67653.2.834 as shown on the Cadastral Map and Plan of Smolyan. The plant is situated outside the perimeter of the Natura 2000 protected area. Letter KPD-11-174(1) of 9 March 2018, issued pursuant to Article 2(2) of the Regulation on compliance assessment.

• Enta EOOD, Madan;

Launch of pellet production at an existing carpentry workshop through the purchase of equipment for wood chips pelletizing (pellet line). The plant is situated in Plot No I–MTS (46045.501.1032), Quadrant 70, as shown on the Plan of Madan, Madan Municipality, Smolyan Province, It has a capacity of [...] and is situated outside of the boundaries of the Natura 2000 network of protected areas. Letter No KPD-11-374(1) of 17 May 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Kyorchevi-AMM EOOD, Barutin Village;

Pellet plant in Plot No I, Quadrant 76, Barutin Village, Dospat Municipality, with a capacity of 0.50 tonnes per hour. The plant is situated without the perimeter of the Natura 2000 network of protected areas. Letter KPD-11-505(2) of 29 June 2018, issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Ekovat-Bulgaria EOOD;

Relocating a wood processing installation (pellet plant) situated in Plot No V-Toplotsentrala, Quadrant 1, as shown on the Plan of Davidkovo Village, Banite Municipality, Smolyan Province. The plant has a capacity of 1 tonne per hour and is situated within the boundaries of PA BG0001031 Rodopi Sredni of Natura 2000. Letter KPD-11-598(2) of 17 July 2018, issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Ekobul 88 EOOD, Plovdiv;

Production of coloured, dry, calibrated wood shavings and pellets and other raw materials. The plant is situated in Plot No 028035, Pavelsko Village, Chepelare Municipality, Smolyan Province, within the boundaries of PA BG0001031 Rodopi Sredni, which forms part of the Natura 2000 network. It has a capacity of 0.25 tonnes per hour. Letter KPD-11-559(3) of 16 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Bio Pellet Group EOOD, BoriNo Village;

Pellet plant in Plot No 41006.7.245 as shown on the Cadastral Map and Plan of Kasak Village, Dospat Municipality, with a capacity of 1.50 tonnes per hour. The site is situated within the perimeter of SAC BG0001031 Rodopi Sredni included in the Natura 2000 network of protected areas. Letter KPD-11-566(5) of 18 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Yuri Zahariev 77 EOOD, Smilyan Village, Smolyan Municipality;

Technological pellet line in Plot No 67547.501.420 on the Cadastral Map and Plan of Smilyan Village, Smolyan Municipality, with a capacity of 1 tonne per hour. The site falls within the boundaries of Natural 2000 (SAC BG0001031 Rodopi Sredni); Letter No KPD-11-752(3) of 13 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment;

- Balkanpelet EOOD;

Pellet plant in Plot No 31111.36.404 on the Cadastral Map and Plan of Zlatograd, Smolyan Municipality, with a capacity of 0.50 t/h. The site falls within the boundaries of Natural 2000 (SAC BG0001031 Rodopi Sredni); Letter No KPD-11-609(1) of 19 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment;

- AK-2012 EOOD;

Wood pellet plant in Plot No 67653.928.85, UPI-V, Quadrant 112, situated within the boundaries of Smolyan, with a capacity of 1 tonne per hour. The plot is situated outside the boundaries of the Natura 2000 network of protected areas. Letter KPD-11-619(1) of 20 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Titan-9 EOOD;

Pellet plant in Plot No 2038, Quadrant 58 as shown on the Plan of Hvoyna Village, Chepelare Municipality, Smolyan Province, with a capacity of 1 tonne per hour, situated in SAC BG0001031

within the boundaries of the Natura 2000 network of protected areas; Letter KPD-11-623(2) of 24 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- Dimaks Group 2016 EOOD;

Pellet plant in Plot No 028035 within the boundaries of Pavelsko Village, Chepelare Municipality, Smolyan Province, with a capacity of 2 tonnes of pellets per hour. The site is situated in SAC BG0001031 Rodopi Sredni within the boundaries of the Natura 2000 network of protected areas. Letter KPD-11-639(2) of 25 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- SEVI-75 EOOD;

Production of pellets and dry calibrated wood chippings at a plant situated in Plot No 31111.36.361, Zlatograd, Smolyan Province, with a capacity of 0.50 t/h (pellets) and 1.5 tonnes per hour (calibrated wood chippings). The site is situated outside the boundaries of the Natura 2000 network of protected areas. Letter KPD-11-643(1) of 26 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- MM-FOREST 91 EOOD;

Wood processing and pellet plant in Plot No III-66052, Quadrant 46, within the boundaries of Srednogrotsi Village, Madan Municipality, Smolyan Province, with a capacity of 1 tonne per hour. The site is situated outside the boundaries of the Natura 2000 network of protected areas. Letter KPD-11-627(1) of 23 July 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- MKD AGRO EOOD, SOFIA;

Mobile system for the production of wood chippings in Plot No 67653.916.37 as shown on the Cadastral Map and Plan of Smolyan, with a capacity of 0.50 tonnes per hour. The site is situated outside the boundaries of the Natura 2000 network of protected areas. Letter KPD-11- 649(1) of 3 August 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- MKD AGRO EOOD, SOFIA;

Installing a technological line for the production of woodchips (technological chippings) in Plot No 31111.36.355 as shown on the Cadastral Map and Plan of Zlatograd, Zlatograd Municipality, Smolyan Province, with a capacity of 0.50 tonnes per hour. The site is situated outside the boundaries of the Natura 2000 network of protected sites. Letter KPD-11-662(1) of 3 August 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

- DOSPATLES EAD;

Change of the designated use of a storage shed at the pellet plant in Plot No X, Quadrant 74, as shown on the Plan of Satovcha Village, Satovcha Municipality, Blagoevgrad Province, with a capacity of 1.5 tonnes per hour. The site is situated outside of the Natura 2000 network of protected areas. Letter KPD-11-945(1) of 22 November 2018 issued pursuant to Article 2(2) of the Regulation on compliance assessment.

The implementation of investment projects for the construction of power plants for the production of electricity, including electricity from renewable sources, is controlled by the competent authorities referred to in the Spatial Development Act. The Minister for Energy does not have control powers in respect of the construction and commissioning of power plants.

Controls to ensure compliance with the statutory requirements for environmental protection are carried out by the competent authorities designated in the Environment Protection Act and specialist environmental legislation.

B. The following measures and conditions should be reflected in the final version of the NPDEVI:

All measures and conditions stipulated in Environmental Assessment Opinion No 1-2/2012 of 8 August 2012 issued by the Minister for the Environment and Water have been taken into account in the final version of the NPDEVI adopted with Decision of 9 January 2013 of the Council of Ministers.

The implementation of the measures and conditions is as follows:

1. Mitigating measures implemented by the MOSV to overcome, lower or eliminate as fully as possible the adverse effects of the implementation of investment proposals on protected areas in relation to the prohibition to conduct new co-ordination procedures under the ZOOS and the ZBR (i.e. where the issuance of an EA opinion has not been launched) in respect of the construction of hydropower plants, small hydropower plants, photovoltaic plans and wind farms.

The measure guarantees that No projects for the production of energy from renewable sources will be implemented/approved within the perimeter of protected areas and in a significant radius around them, including in vulnerable areas outside the boundaries of Natura 2000.

According to MOSV data the following procedures were terminated in compliance with the prohibition to conduct new co-ordination procedures, i.e. procedures that have not been launched as at the date of the EA Opinion) under the ZOOS and the ZBR:

1) Run-of-river and impoundment hydropower plants and small hydropower plants within the boundaries of protected areas for conservation of the water dependent species and habitats referred to in point 1.1 of the EA Opinion:

Terminated procedure under Chapter Six of the ZOOS and Article 31a of the ZBR in respect of investment proposal for the Sveti Vrach small hydropower plant on the Elenska River, within the boundaries of Smolyan, Smolyan Province, with maximum capacity of 0.2 MW; Contracting entity: Krama OOD, Devin. The selected site for the investment proposal falls within the boundaries of two SPIs within the meaning of the Biodiversity Act — SAC BG0001030 Rodopi – Zapadni for conservation of the natural habitats of wild flora and fauna, designated as a protected area by Decision No 661/2007 of the Council of Ministers (SG No 85/2007) and SAC BG0002113 Trigrad – Mursalitsa for the conservation of wild birds designated by Order No RD-531 of 26 May 2010 of the Minister of Environment and Water (SG No 50/2010). Decision No PO-10-1 of 25 January 2018 on termination of the EIA, including the compliance assessment undertaken in respect of the abovementioned investment proposal, was issued.

Four procedures for the construction of small hydropower plants were terminated due to incompliance of the investment proposals with a prohibition for surface water abstraction for the production of electricity introduced by the Water Act and the fact that the section of the river concerned was within the boundaries of designated SPIs for the conservation of the natural habitats of species in which water quality maintenance or improvement is an important factor for conservation.

A procedure for the construction of a small hydropower plant was terminated due to incompatibility of the proposal with the prohibitions imposed by Measure B, paragraph 1, sub-paragraph 1.1 of Environmental Impact Opinion No 1-2/2012 of the Minister of Environment and Water issued for the purpose of co-ordinating the NPDEVI.

2) Photovoltaic plants/installations constructed on government-owned forest plots within the boundaries of all SPIs included in the Natura 2000 network, except those intended to ensure independent power supply of the facility or built in damaged areas.

3) In respect of wind generators installed on government-owned agricultural land and forest plots outside the boundaries of the Natura 2000 network pursuant to sub-paragraph 1.3.2 of the EA Opinion:

Decision No VR--2-P of 27 January 2014 was issued by which the procedure for the construction of a wind farm within the boundaries of KameNo Pole, Roman Municipality, Vratsa Province was terminated. Contracting authority: Green Invest 3000 BG1 EOOD. The procedure was terminated due

to incompatibility of the proposal with the prohibitions stipulated in the NPDEVI in accordance with the measures and conditions set out in EA Opinion No 1-2/2012, and more specifically paragraph I, sub-paragraph 1.3.2 of the Opinion (the site of the investment proposal is situated at a distance of 1 to 2 km from the boundaries of SAC BG0000332 Karlukovski karst for the conservation of wild birds.

2. The introduction of incentives for second and third-generation biofuels

The ZEVI sets out promotional measures relating to the production of new-generation biofuels, including in accordance with Article 36(4) of the ZEVI in case of providing financial assistance for the production of biofuels when priority is given to the production of biofuels from waste, residues, non-food cellulose materials and lignocellulose materials;

Within the time period envisaged in Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources (Directive (EU) 2015/1513), i.e. by 6 April 2017. Bulgaria has set and submitted to the European Commission its national target for the consumption of new generation fuels (fuels produced from residues such as straw, algae, grape Marc, livestock manure, sludges, etc.) of 0.05 percentage points of energy content from the mandatory share of energy from renewable sources in all types of transport to be achieved by 2020.

The requirements laid down in Article 2 of Directive (EU) 2015/1513 have been transposed into national law with the Law amending and supplementing the ZEVI (ZID ZEVI, SG No 91 of 2 November 2018), the Regulation laying down the sustainability criteria for biofuels and liquid fuels from biomass (SG No 95 of 4 December 2012, in force as from 4 January 2013, as amended and supplemented in SG No 10 of 1 February 2019) and the Methodology for calculating the reduction of emissions from greenhouse gases from the entire life-cycle of biofuels and liquid fuels from biomass.

The following regulatory measures have been adopted with a view to ensuring the successful implementation of Directives 2015/652 and Directive (EU) 2015/1513:

- Regulation laying down the requirements and procedure for drawing up and verifying the reports of suppliers of fuels and energy for transport;
- Methodology for calculating the intensity of GHG emissions from the entire life-cycle of fuels and energy from non-biological origin in transport;
- Regulation amending and supplementing the Regulation laying down the sustainability criteria for biofuels and liquid fuels from biomass;
- Methodology for calculating GHG emissions from the entire life-cycle of biofuels, taking into account indirect changes in land use.

In 2012, the Council of Ministers, acting on a proposal from the Minister of Environment and Water, adopted a Regulation laying down the sustainability criteria for biofuels and liquid fuels from biomass (the Regulation). Said Regulation lays down the sustainability criteria for biofuels and liquid fuels from biomass and the requirements and procedure for the information to be compiled and provided by economic operators for the purpose of issuance and withdrawal of compliance certificates and the procedure for issuance of sustainability Declarations.

In 2018, the Minister of Environment and Water proposed to the Council of Ministers a draft Decree amending and supplementing the Regulation with the aim of transposing Directive (EU) 2015/1513 into national law. By the amendments the following were introduced:

– obligations to report on the use of new generation biofuels and prevention of the deliberate modification of the waste used in their production;

– obligations to report the provisional and estimated average greenhouse gas emissions resulting from indirect changes in land use in accordance with the sustainability criteria of voluntary schemes and the principle of mutual recognition;

- amendments to the rules for calculation of GHG emissions from the entire life-cycle of biofuels;
- standardisation of the rules for the use of the default values of GHG estimates.

Innovations in the field of the low-carbon economy are an integral part of the approach of OP Innovation and competitiveness 2014-2020 and an opportunity to develop this type of innovative products.

3. **The assessment of the available and estimated potential of the types of resources for the production of energy from renewable energy in Bulgaria (within the meaning of Article 19(1) of the ZEVI) should contain data on the sensitivity of territories with regard to biodiversity (where 'biodiversity' applies to both protected areas and zones and known biodiversity sites outside the Natura 2000 network and the network of protected areas such as nests of globally endangered species of birds, migration bottlenecks, key bat conservation areas, etc.).**

The assessment of the available and estimated potential of energy generation resources is an integral part of the feasibility studies inherent in the investment process for the construction of power plants for energy from renewable sources.

In addition to conducting an comprehensive, exhaustive and detailed feasibility study as a requirement for the planned investment, the investor must notify the competent environmental bodies of its proposal in accordance with the procedure envisaged in Article 95(1) of the ZOOS and request a clarification as regards the applicable procedures envisaged in Chapter Six of the ZOOS. In this context and taking into account the requirements arising from the scope of the legal framework applicable to the investment proposal, the contracting authorities should provide full, adequate and detailed information about the investment proposal and the stage of the requisite feasibility study.

4. **The National information system of the potential, production and consumption of energy from renewable sources (in accordance with Article 52 of the ZEVI) should contain and maintain information about:**
   - known territories of importance for biodiversity outside the Natura 2000 network and the network of protected areas (nesting areas of globally endangered species of birds, migration bottlenecks, key bat conservation areas, etc.);
   - moveable and immoveable cultural assets.

In accordance with Article 52 of the ZEVI the following must be provided for the purpose of ensuring accessibility via the National information system:

- information about the national (overall and sectoral) targets for the generation and use of energy from renewable sources;
- reports on the implementation of the NPDEVI;
- qualification schemes for training to acquire professional qualification for the activities envisaged in Article 21(1) of the ZEVI;
- a list for the acquisition of professional qualifications for the activities envisaged in Article 21(1) of the ZEVI;
- list of the persons auditing the compliance of biofuels and bioliquids with the sustainability criteria;
- information about the measures to promote the production and consumption of electricity and energy for heating and cooling from renewable sources and gas from renewable sources;
- information about incentives for the production and consumption of biofuels and energy from renewable sources in transport;
- information about workshops, conferences and other events related to the production and consumption of electricity, renewable energy for heating and cooling, gas from renewable sources and with the production and consumption of biofuels and energy from renewable

sources in transport;

- information about the net benefits, energy costs and energy efficiency of the equipment and systems for the production and consumption of electricity and renewable energy for heating and cooling supplied by equipment and system suppliers;
- information about training and awareness campaigns on support measures, the benefits and practical aspects of the development and use of electricity, renewable energy for heating and cooling, gas from renewable sources, and biofuels and energy from renewable sources in transport;
- information about the procedure for reviewing applications for the issuance of permits, certificates and licenses for projects for the production of energy from renewable sources;
- any other information.

To ensure that availability, the following information is provided via the system:

- the production of energy and gas from renewable sources, and biofuels and energy from renewable sources in transport;
- the consumption of energy from renewable sources, and biofuels and energy from renewable sources in transport;
- the projects financed by the FEEVI.

5. Along with promoting the measures to encourage the production and consumption of energy from RS, attention should be paid to the risks posed to sensitive biodiversity areas

Implemented within the specific activities, taking into account the goal of the activity or event.

6. Long- and short-term municipal programmes for promoting the use of renewable energy and biofuels are to contain detailed information on environmental risks posed to sensitive areas in the relevant municipality

The programmes referred to in Article 9 of the ZEVI include information about the environmental and economic benefits from the implementation of projects in the area of energy from renewable within the relevant municipalities and their adequate financing as well as the possibilities to use different types of renewable sources and their environmental impact.

7. Incentives are to be created for the use of biodegradable waste instead of wood or energy crops.

Implemented within the application and implementation of environmental policy and, more specifically, waste management policy.

8. Introduction of administrative or other incentives for the development of renewable energy sources in areas that have already suffered from human impact, including damaged sites

Within the application and implementation of environmental policy.

C. When implementing NPDEVI, the following measures and conditions are to be fulfilled:

1. When planning energy system components, preference is to be given to low-risk areas, such as land in the vicinity of industrial areas, motorways and other artificial landscapes.

Plans for the construction and operation of facilities for the production of electricity and facilities for electricity transmission via overhead cables are subject to an EIA or an assessment of whether an EIA needs to be conducted to determine the negative impact of investment implementation on the environment.

2. When electricity distribution and transmission companies expand and renew their grids, better coordination and greater clarity of their investments is to be ensured in order to

improve the possibilities for connecting new renewable energy projects to the grid.

According to Article 21(1)(30) of the Energy Act, the KEVR 'controls the implementation of electricity transmission grid operators' investment plans and submits in its annual report an evaluation of the operators' investment plans in relation to their conformity with the ten-year plans for development of the grids in the European Union. On the grounds of Article 21(3)(8) of the Energy Act, the KEVR approves a ten-year plan for the development of the transmission grid, monitors and controls its implementation under the provisions and its adherence to the procedure of Regulation No 3 on the licensing of activities in the energy sector.

3. Indicators for monitoring and control of the environmental impact of NPDEVI implementation.

■ Implemented investment proposals for the construction and/or launch into operation of power plants for renewable energy situated outside special conservation areas and protected areas:[60]

EA Opinion No VA-1/2018 was issued in respect of the co-ordination of Detailed Master Plans — construction plans (PUP-PZ) for a photovoltaic plant in Plots Nos 20482.194.2 20482.34.5, 20482.33.46 and 20482.27.63 as shown on the Cadastral Map and Plan of Devnya, Devnya Municipality, Varna Province; Contracting entity: 4B Solar EOOD, Varna. The area delineated on the PUP-PZ is outside the boundaries of SACs within the meaning of the Special Conservation Areas and Protected Areas within the Natura 2000 Network Act. The draft construction plans (PUP-PZ) are developed in accordance with the Spatial Development Act for the purpose of building a photovoltaic plant in the following plots:

- No 20482.194.2 with an area of 1170025 m^2 in the Tsarskoto area;
- No 20482.34.5 with an area of 1783445 m^2 in the Karovcha area;
- No 20482.33.46 with an area of 683176 m^2 in the Karovcha area;
- No 20482.27.63 with an area of 330397 m^2 in the Karovcha area;

Agricultural land with a permanent designated use as grassland as shown on the Cadastral Map and Plan of Devnya, Devnya Municipality.

- Installations for the co-incineration of waste for the production of biogas within the area under the jurisdiction of the RIOSV Shumen, including a breakdown per operator:

– GiG - 58 OOD; Installation for the co-incineration of waste (EWC 03 01 05 – sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04) from the company's own furniture factory. The generated energy (steam) is used for the own technological needs of the plant. The installation has a capacity of 1 tonnes per year.

– Dibo AD. Installation for the co-incineration of waste (EWC 03 01 05 – sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04) from the company's own furniture factory. The generated energy (steam) is used for the technological needs of the plant. The installation has a capacity of 60 tonnes per year.

– Pliska Oil OOD; Installation for the co-incineration of waste (EWC 02 03 04 – materials unsuitable for consumption or processing – oil cake from the own production of the plant). The generated energy (steam) is used for the technological needs of the plant. The installation has a capacity of 10 000 tonnes per year.

– Ekokomers – NEK OOD. Installation for the co-incineration of waste with the following European Waste Codes: 02 01 03 plant-tissue waste; 02 01 07 wastes from

60 On the basis of MOSV data:

forestry; 03 01 01 waste bark and cork; 03 01 05sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04; 15 01 01 paper and cardboard packaging; 15 01 03 wooden packaging; 17 02 01 wood; and 20 02 01 biodegradable waste. The energy generated is used for the technological needs of the plant, which has a capacity of 8 000 tonnes per year.

- ET Lito Sin – Hristo Hristov. Installation for the co-incineration of waste (EWC 03 01 05 – sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04) from the company's own furniture factory. The generated energy (steam) is used for the technological needs of the plant. which has a capacity of 50 tonnes per year.
- Impala OOD. Installation for the co-incineration of waste (EWC 03 01 05 – sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04) from the company's own furniture factory. The generated energy (steam) is used for the technological needs of the plant, which has a capacity of 3.5 tonnes per year.
- SD Dobromir Yordanov – Ognyan liev – EZOKS. Power plant for the production of electricity from biogas obtained from the anaerobic composting of silage and livestock waste livestock manure. Waste reclamation EWC 02 01 06 animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site. The installation has a capacity of 20 000 tonnes per year.

– A biogas plant operated by Bio Power Invest OOD, Sofia, was constructed and put into operation in Kula. The main raw material used in biogas production is livestock manure. In 2017 and 2018, a total of 6 833 789 m^3 and 6 361 991 m^3 of biogas were respectively produced.

– Two chemical plants for the production of fatty acid methylene esters (biodiesel) were constricted in the area under the jurisdiction of the RIOSV Montana. The plants, respectively operated by FAUSTINA GROUP OOD, Vratsa, and Ekoproekti EOOD, Sofia, are situated in Dr Yosifovo Village, Montana Municipality, and Dimovo. In 2017 and 2018, the installations did not operate and No biofuel was produced;

– A steam boiler producing energy for heating from biomass with a capacity of 14 MW was put into operation by Toplofikatsiya Gabrovo EAD, Gabrovo;

– In 2018, the Stakevtsi small hydropower plant with a nominal capacity of 215 kW was put into operation in the turbine room of the plant, situated in Plot No I-131, [Quadrant] 13, Golyama Polyana area, Stakevtsi Village, Belogradchik Municipality, along with water pressure main and intake from the Stakevska River and Iliyna River, in Plots Nos 205130, 205121, 199103, 205076, 205077, 206128, 205134, 164001, 149027 and 000229 within the boundaries of Stakevtsi Village, Belogradchik Municipality, Vidin Province;

– Installation for the production of electricity and heat through indirect use of biomass from plants and animals on a site situated within Plot No 000013, Gudzhi Dab area, Apriltsi Village; Contracting entity: Svikom AD; The installation comprises 2 bioreactors (fermenters). It was commissioned in 2017 subject to the requirements stipulated in Integrated Permit No 374-N1/2010. The maximum daily quantity of biomass the installation can process is 85 tonnes (EWC 02 01 06 animal faeces, urine and manure (including spoiled straw), adding 5-10 tonnes of plant biomass). The installation has an electrical capacity of 1 487 kW and a nominal heat capacity of up to 5 400 kW;

– A photovoltaic plant with a capacity of 12.5 kW was put into operation — First stage of construction: Photovoltaic plant with totalled installed capacity of 100 kW in Plot No II-399 designated for a photovoltaic plant, Yankulitsa area, within the

boundaries of Tserovo Village, Lesichovo Municipality, Pazardzhik Province. The implementation of the investment proposal was co-ordinated on the grounds of Article 2(2) of the Regulation on compliance assessment by Letter No KD-01-3456 of 5 October 2010;

– Cherepish small hydropower plant on the Iskar River; Contracting entity: KA 5 AD, situated within the boundaries of ZveriNo Village, Mezdra Municipality. Total installed capacity 3 405 kW. Equipment — turbines and other hydropower equipment, including a concrete downstream barrier with integrated water main for the discharge of high water and removal of polluted sediments, along with a water abstraction and sediment trap, fish passage with an opening for ecological waters, upper water level, bottom water level, and turbine room. The total affected area is 19 ha, including the lake behind the artificial barrier (0.08 % of the area). The site is situated within the perimeter of SAC BG0001042 Iskarski Prolom-Rzhana for the conservation of the natural habitats of wild flora and fauna. It is included in the list of protected areas adopted by Decision No 122 adopted by the Council of Ministers on 2 March 2007 (SG No 21/2007). In connection with this, Decision No VR-23-PR/2004 of 18 August 2004 setting out a negative opinion on the need to conduct an EIA was issued in respect of the investment proposal for the construction of the Cherepish small hydropower plant on the Iskar River, within the boundaries of ZveriNo Village, Mezdra Municipality, Vratsa Province, and Decision No 02-OS/2008 on determining the potential adverse effects of the investment proposal.

– MVETs Elena along the Ogosta River — small hydropower plant, contracting authority Elena Build EOOD Situated within the boundaries of Hayredin Village, Hayredin Municipality. Capacity 960 MW Equipment — turbines and other hydroelectric equipment, including spillways with bottom outlet gates, solid part and dampener further along, fisheye, power plant building in the riverbed, protective dykes on the side, upper and lower water levels. Total affected area 10 ha. The plant is situated within the perimeter of Protected area for the conservation of wild birds BG0002009 Zlatiyata, designated by Order No RD-548/2008 of the Minister of Environment and Water (SG No 83/2008). It takes up 0.03 % of the area, including a built-up area of 0.47 ha. Decision No VR 22-PR/2008 of 30 May 2008 on determining the necessity of conducting an EIA, setting out a conclusion that the investment project does not require an EIA.

– Luna MVETs on the Botunya River, contracting authority Botunya Energy AD, capacity 418 MW, situated within the boundaries of Botunya Village. Krivodol Municipality. The site is within the perimeter of SAC BG0000593 Bilernitsite for the conservation of the natural habitats of wild flora and fauna. The affected site has an area of 2.85 ha (4.42 % of the SAC). The hydropower plant comprises a water intake at the Botunya River; a reinforced concrete wall with a length of 56.60 m, height of 11.50 m; crest elevation 219.50 m; main drainage basin with two submerged openings (H=5 m and B=7 m) with closed segments; water intake on the left bank; an ecological opening and fish passage along the right bank of the river; pressure water main; main hydropower plant building and lower open channel with a length of 15 m — DVN 207.00. In connection with this the following Decisions have been issued: Decision No VR-28/2004 of 3 September 2004 setting out a negative opinion on the need to conduct an EIA in respect of the construction of the Luna small hydropower plant on the Botunya River, Krivodol Municipality, Vratsa Province; Decision No VR-13-PR/2007 of 13 March 2007 setting out a negative opinion on the need to conduct an EIA in respect of the construction of the Luna run-of-river small hydropower plant on the Botunya River, within the boundaries of Botunya River, Krivodol Municipality, Vratsa Province; Decision No 4-)S/2009 on determining the potential negative impact (pursuant to §14(3) in conjunction with

paragraph 1 of the Transitional and Final Provisions of the Law amending and Supplementing the Biodiversity Act), setting out a positive opinion on the need to conduct an assessment of the environmental impact of the proposal for the construction of the Luna small hydropower plant on the Botunya River, within the boundaries of Botunya Village, Krivodol Municipality, Vratsa Province on the protected area and Decision No 05-OS/2009 on compliance assessment by which the investment proposals for the abovementioned plant was co-ordinated.

- KuniNo diversion hydropower plant in the free-flowing section of the Iskar River; Contracting entity: KuniNo Energy AD. The plant is situated within the boundaries of KuniNo Village, Roman Municipality and has a total installed capacity of 4 410 kW. The total area of the site is 13.5 ha. It falls within the boundaries of SAC BG0001014 Karlukovo for the conservation of the natural habitats of wild flora and fauna and takes up approximately 7.3 ha (0.03 % of the protected area). The existing diversion channel has a length of 2 630 m and most of it is outside the boundaries of the SAC. HPP KuniNo comprises the following structural components: the reservoir's spillway situated on the other side of the Iskar River; a fish passage has been built along the left bank between the reservoir and the dyke; water collection installations on the rights bank of the river; a two-chamber mud barrier with a flush canal; a canal diversion with a length of 2 640 m, a concrete cover that ensures the flow of water to the water chamber and hydropower plant construction; water chamber under pressure at the end of the diversion canal; main turbine room of the plant; exit point of the canal with a length of 600 mused to feed processed water back into the Iskar River; protective dyke and drainage canals along the left bank of the river. In connection with the project, the following Decisions have been issued: Decision No VR-4-PR/2003 of 10 July 2003 setting out a negative opinion on the ned to conduct an EIA in respect of the construction of a diversion HPP in a free-flowing section of the Iskar River, within the boundaries of KuniNo River, Roman Municipality, Vratsa Province; Decision No 07-OS/2009 of 26 September 2009 on the probable adverse effects of the project (pursuant to §14(3) in conjunction with paragraph 1 of the Transitional and Final Provisions of the Law amending and supplementing the Biodiversity Act), setting out a positive opinion on the need to co-ordinate the abovementioned investment proposal, and Decision No 04-OS/2012 of 31 July 2012 on determining the potential negative effects of the proposal, setting out a positive opinion on the need to co-ordinate the investment proposal for the expansion of the lower canal of the KuniNo small hydropower plant, situated within the boundaries of KuniNo Village, Roman Municipality, Vratsa Province.

Constructed and currently operating power plants producing energy from renewable sources and situated outside the boundaries of SACs and SPAs:

- Issued permits for the operation of 2 small hydropower plants outside the boundaries of SACs and SPAs. The two plants have a total capacity of 4 270 kW and operate in the area under the jurisdiction of the RIOSV Blagoevgrad;
- Build Invest Sit EOOD, Trud Village, Maritsa Municipality, Plovdiv Province. Combined cycle power plant for the production of electricity from renewable sources through the indirect use of biomass with an electrical capacity of 1 487 kW and heat capacity of 900 kW. The site has an area of 0.8945 ha. Commission pursuant to Permit for Use No ST-05-331 of 12 March 2015. Issued document in respect of a procedure conducted pursuant to Chapter Six of the ZOOS — Decision No PV-36-PR/2012; Opinion Ref. No OVOS-185/12 of 24 June 2014. Issued document under the Spatial Development Act — Decision No 09-DO-1092-00 of 18 June 2015.
- Biona Gaz OOD, Tsalapitsa Village, Rodopi Municipality, Plovdiv Province. Power plant for the indirect utilisation of biomass from animal and plant substances with a nominal electrical power of 1 500 kW situated on a plot with an area of 1.2171 ha.

Launch date — 2 June 2014. Issued document in respect of a conducted procedure pursuant to Chapter Six of the ZOOS — Decision No PV-93-PR/2012. Issued document under the Spatial Development Act — Decision No 09-DO-1074 of 20 May 2014;

– Komso OOD, Chernozemen Village, Kaloyanovo Municipality, Plovdiv Province. Combined cycle electricity plant with a capacity of 1.5 MW for indirect biomass utilisation on a site with an area of 12.27 ha. Commissioned pursuant to Permit for Use No ST-05-2384 of 15 December 2015. Issued document in respect of a procedure conducted pursuant to Chapter Six of the ZOOS — Decision No PV-9-PR/2014 and Opinion Ref. No OVOS-1145/15 of 29 June 2016. Issued document under the Spatial Development Act — Decisions Nos 09-RD-555-00 and RD-09-554 of 27 June 2016;

– Delton OOD, Saedinenie, Saedinenie Municipality, Plovdiv Province. Power plant for the production of electricity from renewable sources (biomass) with a capacity of 1.5 MW situated on a site with an area of 8.2805 ha. Commissioned pursuant to Permit for Use No ST-05-805 of 21 May 2014. Issued document in respect of a procedure conducted pursuant to Chapter Six of the ZOOS — Decision No PV-112-PR/2011; Opinion Ref. Nos OVOS-532 of 25 September 2013 and OVOS-632 of 31 July 2014. Issued document under the Spatial Development Act — Decision No 09-DO-1100-00 of 9 October 2015.

– Elit-95 OOD, Popovitsa Village, Sadovo Municipality, Plovdiv Province. Power plant for the indirect utilisation of biomass from animal and plant substances and incineration of biogas from biomass with a nominal electrical power of 1500 kW situated on a plot with an area of 0.6482 ha. Commissioned on 26 June 2015. Issued document in respect of a procedure conducted pursuant to Chapter Six of the ZOOS — Decisions Nos PV-92-PR/2011 and PV-48-PR/2015. Issued document under the Spatial Planning Act — Decision No 09-DO-1094-00 of 24 August 2015;

– ET Nenko Trifonov, Banya Village, Karlovo Municipality, Plovdiv Province. Installation for mesophilic anaerobic liquid fermentation (Biogas installations) with a capacity of up to 400 kW on a site with an area of 6.4032 ha. Commissioned by Permit for Use No ST-05-1564 of 17 September 2015. Issued document in respect of a procedure conducted pursuant to Chapter Six of the ZOOS — Decision No PV-71-PR/2013.

– The Kaleto small hydropower plant with installed capacity of 3 150 kW. The hydropower plant comprises a downstream barrier with a height of 8.50 m, a diversion canal with a length of 1 300 m, turbine room with a total area of 300 m, containing 2 turbines and a sluice way with a length of 380 m. Issued Decision No VR-24-PR of 30 August 2004 setting out a negative opinion on the need to conduct an EIA in respect of investment proposal for the construction of the Kaleto HPP on the Iskar River, within the boundaries of the villages Darmantsi and Kreta, Mezdra Municipality, Vratsa Province.

– Tsarevets HPP with a total installed capacity of 1 840 kW. Facilities — hydropower facilities, including a spillway to ensure high wave flow, divided into four sections each with a segment closure together with integrated overflow valves, water abstraction facility and sediment pool with two chambers; upper and lower drainage canals; a canal-shaped fish pass to ensure the biological balance in the river bed with a stepped bottom and vertical barriers forming rows of small pools; the main turbine building with the head bay and sluice way, rooms for the electrical equipment, machines and other automated equipment. The following Decisions have been issued: Decision No VR-8-PR/2005 setting out a negative opinion on the need to conduct an EIA in respect of investment proposal for the construction of the Tsarevets small hydropower plant on

the Iskar River, within the boundaries of the villages Oslen Krivodol, Tsarevets and Brusen, Mezdra Municipality, Vratsa Province, and Decision No 1-OS/2009 to determine the probable adverse effects of the investment proposal (§14(3) in conjunction with paragraph 1 of the Transitional and Final Provisions of the Law amending and supplementing the Biodiversity Act), setting out a positive opinion on the need to co-ordinate the investment proposals for the construction of the Tsarevets small hydropower plant to be constructed on the Iskar River, within the boundaries of the villages Oslen Krivodol and Tsarevets, Mezdra Municipality, Vratsa Province.

- Noise around sites subject to health protection in accordance with the definition set out in §1(3) of the Supplementary Provision of the Regulation on conducting Environmental Impact Assessments;

The investment proposal for the construction of a wind farm for power generation — two wind turbines was co-ordinated by Decision No BD-27-PR/2008setting out an opinion on the need to conduct an EIA. The wind farm has been built in Plots Nos 002079 and 006002 in the Kulata area, within the boundaries of Stara Kresna Village, Kresna Municipality. The installed capacity of the two wind turbines is 800 kW. The plots are situated at a distance of approximately 600 m from the nearest urban agglomeration — Stara Kresna village. During the period covered by the report No control measurements of the equivalent levels of noise in the area around the plant.

- Noise around sites subject to the requirements for health protection in accordance with the definition laid down in §1(3) of the Supplementary provisions to the Regulation laying down the requirements and procedure for conducting Environmental Impact Assessments;
  - Sugar and confectionary products plant in Gorna Oryahovitsa operated by Zaharni Zavodi AD, Gorna Oryahovitsa,
  - Plant for the processing of nut tree fruits, oilseeds and dried fruit in Veliko Tarnovo, operated by Viktoria-1006 EOOD, Veliko Tarnovo.
  - Intensive poultry (laying hen) rearing farm and the production of eggs in Polikraishte, Gorna Oryahovitsa Municipality, operated by Consortium Agrobusiness AD, Polikraishte Village;
  - Intensive poultry (laying hens) rearing and egg farm in Kramolin Village, Sevlievo Municipality, operated by EKO INVEST - 2008 EOOD, Kramolin Village;
  - Plant for the production of vegetable (sunflower and rapeseed) oils and peeled sunflower seeds, operated by Oliva AD, Polski Trambesh, 1 Industrialna Street;
  - Intensive pig rearing farm, abattoir and meat processing plant in Balgarsko Slivovo Village, Svishtov Municipality, operated by Bilyana OOD, Balgarsko Slivovo Village;
  - Intensive poultry (laying hens) rearing and egg farm in Daskot, Pavlikeni Municipality, operated by Haypro Bulgaria OOD, Pavlikeni;
  - Intensive poultry (laying hens) rearing and eggs farm in Debelets, Veliko Tarnovo Municipality, operated by Kalina Mihaylova (registered farmer), Debelets.

The results of the controls performed at the abovementioned sites show that the values of equivalent noise levels at the production sites and impact areas do not exceed the daytime and nighttime limit values stipulated in the integrated permits issued to the companies or set out in Table 2 of Annex No 2 to Article 5 of Regulation No 6 of 26 June 2006 on environmental noise indicators, taking into account the levels of discomfort during the different parts of the day, the limit values of environmental noise indicators, and the methods of assessment of environmental noise indicators and the harmful effects of noise on public health.

In accordance with Article 30(1) of Regulation No 54 of 13 December 2010 on the national system for environmental noise monitoring and the requirements for self-monitoring and reporting on the industrial

sources of environmental noise (SG No 3 of 11 January 2011) reports setting out the measurements taken by the operators of the following sites have been submitted:

– Biomass gasification plant comprising units for the temporary storage of raw materials (biomass), mixing, grinding and dosing equipment, gasification (methanisation) bioreactors, separators for bio-sludge, internal combustion engine with a generator and loading ramps.

Site location: Plot 016039, situated in the Suhia Dabovnik area, within the boundaries of Peshtera, Peshtera Municipality/ Pazardzhik Province. Owner: D Franchise Ko – Bulgaria AD, Sofia, Kazichene, Northern Industrial Zone.

The self-monitoring readings taken at regular intervals throughout 2018 show that the daytime and nighttime noise levels were below 70 dB(A) and that the equivalent noise level at the place of impact is below the limits specified — 24.8 dB(A) against a limit value of 55 dB(A) during the day; 24.5 dB(A) against a limit value of 50 dB(A) in the evening, and 23.9 dB(A) against a limit value of 45 dB(A) at night. All readings were below the limit values specified.

– Plant for the gasification of biomass from livestock manure and materials unsuitable for consumption or processing, comprising units for the temporary storage of raw materials (biomass), mixing, grinding and dosing equipment, gasification (methanisation) bioreactors, separators for bio-sludge, internal combustion engine with a generator and loading ramps.

Site location: Plot No 000219, situated within the boundaries of Kapitan Dimitievo Village, Peshtera Municipality, Pazardzhik Province. Plant owner: Bioen – 2015 EOOD, Peshtera.

The self-monitoring readings taken at regular intervals throughout 2017 show that the daytime and nighttime noise levels were below 70 dB(A) and that the equivalent noise level at the place of impact is below the limits specified — 12.9 dB(A) against a limit value of 55 dB(A) during the day; 12.4 dB(A) against a limit value of 50 dB(A) in the evening, and 11.7 dB(A) against a limit value of 45 dB(A) at night. All readings were below the limit values specified.

The respective plants are situated a distance from the sites subject to health protection listed in §1(1) of the Supplementary Provision of the Regulation laying down the rules and procedure for conducting EIA and do not create excessive noise levels.

The following conclusions May be drawn in respect of the activities and measures implemented under the responsibility of the Ministry of Economy within the general framework of energy policy implementation:

- The general measures and conditions for preventing, lowering and eliminating as far as possible of the potential adverse effects of the NPDEVI are implemented on the basis of on the requirements laid down in national law governing investment design, construction and the environment and the sequence of the activities within the investment process and the operation of power plants envisaged by law;
- All measures and conditions for preventing, lowering or eliminating as far as possible of the potential adverse effects of NPDEVI implementation stipulated in EA Opinion No 1-2/2012 of 8 August 2012 of the Minister for the Environment and Water have been taken into account in the final version of the NPDEVI adopted by Decision of 9 January 2013 of the Council of Ministers;
- Their implementation is ongoing.
- The Ministry of Energy does not have information about any adverse effects of the implementation of the NPDEVI and has not made any proposals on corrective action to be taken within the remit of its competence.

This report has been drawn up in accordance with the requirements set out in the Opinion on the

Environmental Assessment Report No 1-2/2012 of 8 August 2012.

REPUBLIC OF BULGARIA

MINISTRY OF ENERGY

Coordinated with:	....	Rositsa Nedyalkova, Head of Political Cabinet
	....	Zhecho Stankov, Deputy Minister
	....	Nikolay Nalbantov, Director of the Energy Strategies and Sustainable Energy Development Policies (ESPUER) Directorate
	....	Aleksandrina Dimitrova, Head of the Energy Efficiency and Renewable Energy Sources (EEVEI) Department
Drawn up by:	....	Maria Minova, Expert, Energy Efficiency and Renewable Energy Sources (EEVEI) Department