Assessment of climate change policies in the context of the European Semester

Country Report: Bulgaria

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The report provides an overview of current emission trends and progress towards targets as well as policy developments that took place over the period May 2012 to January 2013.

The content of the report represents the state of knowledge in February 2013, specific updates were made adding the latest official greenhouse gas emission data by the European Environment Agency (EEA).

Please feel free to provide any comments or suggestions to the authors through the contacts listed above.

Short summary

- ***Background:*** *Climate change receives little attention in Bulgaria. The country's economy is highly-energy intensive, and energy policy focuses on nuclear and coal.*
- ***GHG target:*** *Non-ETS emissions were increased so far below of the 2013 target and according to the latest national projections Bulgaria is expected to meet its 2020 target.*
- ***Policy development:*** *There have been improvements in energy efficiency policy, but cuts in renewable energy support. Use of ETS auctioning revenues is under debate. There has been no progress on energy infrastructure.*

1 Background on climate and energy policies

In general, climate change policy receives little attention in Bulgaria. In recent months, the main focus of the political debate has been on the future energy supply of the country. After Bulgarian Prime Minister Boyko Borisov decided to terminate the construction of the Belene nuclear power plant (NPP) in March 2012, the socialist opposition organised a referendum on nuclear energy which took place on 27 January 2013. With a turnout of only 20.2%, 61% voted in favour of a second NPP in Bulgaria. Even though the turnout was insufficient to result in a binding referendum, the incumbent Government declared its intention to build a seventh reactor with a capacity of 1000 MW at the existing NPP in Kozloduy, which could be functional by 2020-2022 (Novinite 2013a).

Energy policy in Bulgaria relies heavily on the use of coal and nuclear power - these make up almost 80% of Bulgaria's electricity generation. The power sector is still dominated by the state-owned national electricity company NEK, which also controls the Bulgarian transmission grid. The Maritsa Iztok Complex, consisting of three lignite-fired thermal power stations, is expected to be enlarged in upcoming years by two new units with a capacity of 280 MW each (Novinite 2012). This could lead to higher emissions from electricity generation in the future.

The current energy policy debate also contests support for renewable power: Bulgarian decision-makers have consistently used the media to create a negative public image of this sector. They retroactively cut feed-in tariffs for renewably generated electricity on 14 September 2012 by as much as 39% for certain technologies, which led to a significant loss of trust in Bulgaria's governance and investment climate in the renewable energy sector. Government officials declared the support of renewable energy sources (RES) to be too expensive, inefficient, and dangerous for the stability of the electricity grid (PV Magazine 2012).

At the beginning of February 2013, thousands of Bulgarian citizens initiated protests in more than a dozen Bulgarian cities against skyrocketing electricity bills for December 2012 and January 2013 issued by the power distributors ČEZ, EVN, and Energo-Pro. Consumers reported 100% higher bills compared to the same period in 2012. The distribution companies explained the price increase as resulting from a different accounting period, cold weather, the holidays, and an increase in electricity prices by 14% since July 2012. Meanwhile, the Ministry of Economy and Energy declared that an

expert committee would examine the calculation of electricity bills issued by ČEZ (Novinite 2013c). In addition, the government of Bulgaria has asked the World Bank and the EU Commission to provide an analysis of the energy sector in the country and come up with recommendations.

2 GHG projections

Background information

In 2011, Bulgaria emitted 66.1 Mt CO_2eq (UNFCCC inventory 2011), of which more than half came from energy supply. While emissions in that sector dropped significantly in the 1990s, mainly due to the transformation of the economy over the last two decades, emissions started to rise again since 2000 and were in 2011 almost back at 1990 levels. In contrast, emissions from energy use, industrial processes, and agriculture dropped between 55 and almost 80% between 1990 and 2011 due to economic contraction and a decreasing population. The decline in emissions from agriculture is the result of decreased livestock populations and abandonment of farmland. Emissions from transport, however, increased between 1990 and 2011 by almost 20%. Despite these significant changes, Bulgaria remains the most-energy intensive economy in the EU (UNFCCC inventory 2011, EEA 2013, UNFCCC 2012c).

Progress on GHG targets

There are two sets of targets to evaluate: 1) the Kyoto Protocol targets for the period 2008-12 (which has just ended) and 2) the 2020 targets for emissions not covered by the EU ETS.

Under the Kyoto-Protocol the emission reduction target for Bulgaria for the period 2008-2012 has been set to minus 8% based on 1988 for CO_2, CH_4 and N_2O and on 1995 for F-gases. An evaluation of the latest greenhouse gas data (for the year 2011) shows that Bulgaria's emissions have been decreased on average by 50.1% against the Kyoto base year (EEA 2013a). Hence, Bulgaria is guaranteed to meet its Kyoto target through domestic emissions reductions directly.

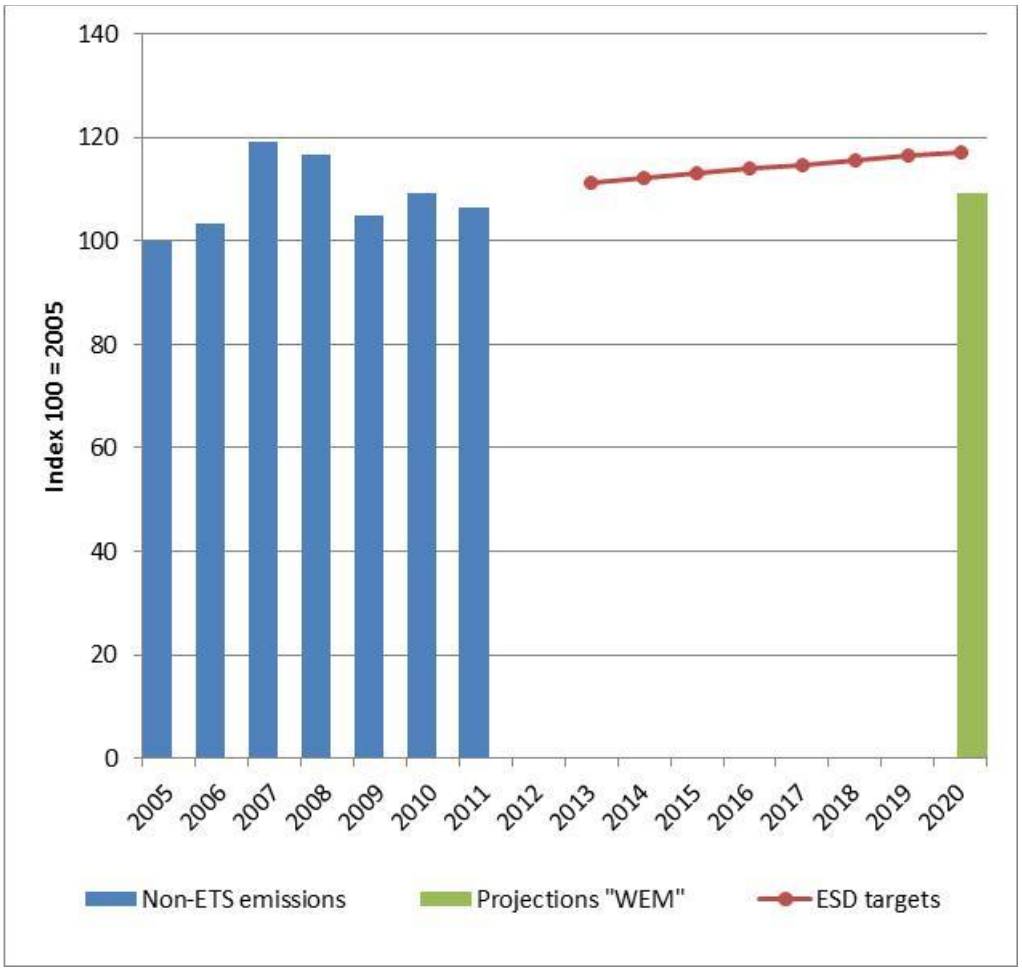
By 2020, Bulgaria may increase its emissions not covered by the EU ETS by 20% compared to 2005, according to the Effort Sharing Decision (ESD) ([1]). The latest data available suggests that Bulgaria is currently on track to meet this target. According to the 2011 inventory data, emissions in 2011 were 5% below the Annual Emissions Allocation (COM 2013) for the year 2013. National projections show that Bulgaria is expected to increase its emissions by 2020 by 12% compared to 2005 in both scenarios with existing and additional measures ([2]) (EEA 2012c, 2013b); thus reaching its 2020 target.

[1] Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

[2] Calculations are based on domestic emissions only, without accounting for possible use of flexibility options. The 2020 targets and 2005 non-ETS emissions are all consistent with 2013-2020 ETS scope, i.e., they take into account the extension of the ETS scope in 2013 and the unilateral inclusion of installation in 2008-2012.

Figure 1 shows Bulgaria's non-ETS emissions until 2011, its targets under the ESD for the period 2013-2020 and the projections with exiting measures for 2020.

Figure 1: Non-ETS emission trends and projections compared to the ESD targets



Source: EEA. Projections are based on 15/04/2013 draft GHG inventory submissions under the UNFCCC and MS projections submitted

Table 1: GHG emission developments, ESD-targets and projections (in Mt CO_2eq)

					ESD target*		2020 Projections**	
	1990	2005	2010	2011	2013	2020	WEM	WAM
Total	109.5	63.7	60.4	66.1				
Non-ETS emissions		24.5	26.8	26.1	27.3	27.2	25.4	25.4
(% from 2005)				6%	11%	20%	12%	12%
Energy supply	38.8	27.0	31.5	36.4				
(% share of total)	35%	42%	52%	55%				
Energy use (w/o transport)	27.4	10.4	5.8	6.0				
(% share of total)	25%	16%	10%	9%				
Transport	6.8	7.7	8.0	8.1				
(% share of total)	6%	12%	13%	12%				
Industrial processes	8.8	6.6	3.6	4.0				
(% share of total)	8%	10%	6%	6%				
Agriculture	18.2	6.2	6.2	6.1				
(% share of total)	17%	10%	10%	9%				

Source: UNFCCC inventories 2011; EEA (2012c, 2013b); COM (2013), Calculations provided by the EEA and own calculations.
** The ESD target for 2013 and for 2020 refer to different scopes of the ETS: The 2013 target is compared with 2011 data and is therefore consistent with the scope of the ETS from 2008-2012; the 2020 target is compared to 2020 projections and is therefore consistent with the scope of the ETS from 2013-2020. Non-ETS emissions in 2005 for the scope of the ETS from 2013-2020 amounted to 22.7 Mt CO_2eq.*
*** 2011 projections with existing measures (WEM) or with additional measures (WAM).*
Legend for colour coding: green = target is being (over)achieved); orange = not on track to meet the target
Total greenhouse gas emissions (GHG) and shares of GHG do not include emissions and removals from LULUCF (carbon sinks) and emissions from international aviation and international maritime transport..

National projections of GHG emissions up to 2020, summarised by the EEA, need to be prepared by the Member States in accordance with the EU Monitoring Mechanism ([3]) every two years, and the latest submission was in 2013. However, Bulgaria has not handed in 2013 projections so far and so the latest data available is from 2011.

The projections need to be prepared reflecting a scenario that estimates emissions reductions in line with policies and measures that have already been implemented (with existing measures, WEM), and an additional scenario that reflects developments with measures and policies that are in the planning phase (with additional measures, WAM) may also be submitted. In the following two tables, these measures - as outlined by Bulgaria as basis for the projections as of April 2011 - have been summarised with a focus on national measures and those EU instruments expected to reduce emissions the most ([4]). An update on the status of the policies and measures is included in order to assess the validity of the scenarios. Below the tables, a summary assessment can be found.

[3] Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

[4] The implementation of the EU-ETS has not been included. Other EU Directives have only been considered if they have been outlined in the projections as one of the main instruments to reduce GHG emissions.

Table 2: Existing and additional measures as stated in the 2011 GHG projections

Existing Measures (only important national measures; w/o EU legislation)		Status of policy in January 2013
Energy	State guarantees for loans for improvement of the operation of nuclear power plant Kozloduy (NPP-K)	Implemented. State-guaranteed loans have been provided for the safety enhancement of units 5 and 6 at Kozloduy NPP. According to the Minister of Finance, no state guarantees will be used for the construction of a seventh unit (BNR 2012).
	Green Investment Scheme and use of Joint Implementation (JI) for implementation of renewable energy and CHP projects	Implemented. The National Green Investment Scheme (NSZI) was created through an amendment to the Law on Environmental Protection in March 2010. The aim of this scheme is to trade GHG emissions at governmental level. The revenues from these sales will be used to support projects, programmes, and activities which otherwise do not receive support and whose implementation would be difficult or impossible. This relates especially to energy efficiency projects in the private and municipal sector, transport and forestry. NSZI can support any project that directly or indirectly reduces GHG emissions in sectors such as renewable energy, cogeneration, fuel switching or waste management (Ecomedia 2010).
	Voluntary agreements for the replacement of imported coal by combustible waste in cement, ceramics, and quicklime production	Partially implemented. According to a report by the EC, Bulgaria started a pilot project on introducing VAs with 9 individual enterprises in March 2007. The pilot builds on the results from know-how transfer and technical assistance project with the Dutch agency SenterNovem (European Commission 2010).
	Utilisation of captured methane for production of electricity	Implemented. On 14 February 2012, the “Act on the storage of carbon dioxide in the earth” came into effect, allowing the utilisation of carbon capture in Bulgaria.
Networks	Regulation by SERC (electricity and gas networks) to reduce losses in the networks	Several investments were made serving primarily to expand the network infrastructure and replace meters in order to improve energy supply reliability and quality as well as to reduce network losses in the long term.
	Privatisation of electricity distribution networks	Implemented. After the privatisation of several state-operated DSOs around 2005/6, the distribution market concentrated around three foreign-owned energy companies: ČEZ, EVN and E.ON (now Energo-Pro) (RES Integration 2011).
	Funding from EU funds for new gas infrastructure to increase the use of natural gas in industry and households	Implemented under the Operational Programme Regional Development (OPRD)
Energy Efficiency	Support for energy audits for SMEs and obligatory implementation of the recommendations coinciding from the audits	Implemented under the Bulgaria Energy Efficiency for Competitive Industry Financing Facility (BEECIFF)
	Obligatory energy audits for	Partially implemented. According to the Energy

	consumers with loads over 10 MW and obligatory implementation of recommendations resulting from the energy audits, related to measures with less than 2-year pay-back period	Efficiency Act, energy audits are obligatory for all public buildings with a useful area above 1000m²
	Voluntary agreements to include monitoring systems for energy use in industry	Partially implemented. According to a report by the EC, Bulgaria started a pilot project on introducing VAs with 9 individual enterprises in March 2007. The pilot builds on the results from know-how transfer and technical assistance project with the Dutch agency SenterNovem (European Commission 2010).
Transport	Taxes and charges for highways	Implemented. On Bulgarian state roads (highways), road tax vignettes are obligatory for all motor vehicles. The prices for 2013 are as following: 1 week - € 5, 1 month - € 13, 1 year - € 34.
	Programme for enlargement of the trans-European network (incl. ISPA funding) to start an automated dispatching system for railways power facilities	Implemented under the Operational Programme on Transport 2007-2013
	Modernisation of railway	Implemented.By 2014, BGN 1.3 billion are to be invested in the Bulgarian railway infrastructure. One of the biggest tenders was launched by the National Railroad Infrastructure Company (NRIC) in 2010, regarding the modernisation of the section between Plovdiv and Burgas.
	Subsidies for public transport	Implemented under the following schemes: - Support for Integrated Public Transport in Sofia Municipality - Project for Integrated Urban Transport in Burgas - Support for integrated urban transport in 5 large cities: Varna, Plovdiv, Stara Zagora, Pleven, and Ruse
	Introduction of parking taxes and car-free zones	Parking taxes were implemented in the capital of Sofia (“blue zones”) Car-free zones have not been implemented so far.
	Lower excise for biofuels	Implemented. End consumers of biofuels resp. fuel producers are entitled to a reduced rate of excise duty for unleaded petrol or gas oil when bioethanol or biodiesel with 4% to 5% of volume has been added.
Other non-ETS sectors	Investment subsides from the SAF and SAPARD for improved manure management	Implemented. The SAF awards grants to projects leading to a reduction of emissions from agricultural activities, such as manure treatment and storage, soil fertilizing, and agricultural residue burning. Measure 121 “Modernization of agricultural holdings” of the Rural Development Programme (RDP) for 2007-2013 allocated over €70 million for investment projects in animal farms involving construction of facilities for

		storage of manure and purchase of equipment. In 2010, 353 projects were approved totaling €45.6 mln.
	Standards on nitrogen contents in agricultural production	Implemented. Ordinance No. 10 of 2003 on emission limit values (last amended in 2011) regulates the limits of nitrogen emissions. In the framework of the Clean Ambient Air Act, programmes were adopted to gradually reduce the total emissions of certain pollutants like nitrogen.

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011.

Additional Measures (only important national measures; w/o EU legislation)		Status of policy in January 2013
Energy	New Renewable energy law is pending approval in the Parliament	The new Bulgarian Renewable Energy Act (REA) was approved by Parliament on 3 May 2011
Energy Efficiency	Energy and environmental standards for the introduction of highly-efficient construction machines using diesel fuel	Under consideration.
	EU funds or new EBRD Funds for installation of solar collectors at institutional buildings and private homes	Starting from 2015, the development and phased implementation of the national programme “1000 Sunny Roofs” is planned which envisages 200 commissioned installations on multi-family buildings by 2016, 400 by 2018, and further 400 by 2020. The programme will be financed through the Energy Efficiency Fund, private investments, ESCO, and specialised credit lines.

Source: Reporting of MS in accordance with Decision No 280/2004/EC about their GHG emission projections up to 2020, April 2011.

According to the current state of implementation, some of the existing measures may not have been (or are no longer) realised to the full extent assumed under the scenario. However, a detailed quantitative evaluation is not available at this point. Some progress has been made to advance additional policies. However, only a small number of additional measures were considered – and overall they were not expected to significantly alter the emissions trajectory assumed for the WEM scenario.

In sum, the assessment of the WEM/WAM scenarios indicates a possible risk that not all emission limitation or reduction effects may be realised, but the underlying information does not allow for a quantitative evaluation. Considering the projected overachievement, the indicated deviation is not likely to endanger target achievement as such.

3 Evaluation of National Reform Programme 2012 (NRP)

In April of each year, Member States are required to prepare their National Reform Programmes (NRPs), which outline the country’s progress regarding the targets of the EU 2020 Strategy. The NRPs describe the country’s national targets under the Strategy and contain a description of how the country intends to meet these targets. For climate

change and energy, three headline targets exist: 1) the reduction of GHG emissions, 2) the increase of renewable energy generation, and 3) an increase in energy efficiency ([5]).

In the following table, the main policies and measures as outlined in the NRP of April 2012 ([6]) have been summarised, and their current status (implemented, amended, abolished, or expired) is given, with specifics on latest developments.

Table 3: Main policies and measures as outlined in the NRP, April 2012

Support for integrated urban transport in 5 large cities: Varna, Plovdiv, Stara Zagora, Pleven, and Ruse	
Status as stated in the NRP	In process of implementation under OPRD until 2013
Status as of Jan 2013	The deadline for submission of project proposals under this scheme expired on 15 March 2012. The total scheme adds up to BGN 203.6 m (OPRD 2012a) The following grants have been provided of which 85% are financed by the ERDF and 15% from the national budget: Varna: BGN 90.99 m Plovdiv: BGN 41.46 m St. Zagora: BGN 24.64 m Pleven: 20.39 m Ruse: 26.01 m
Description of policy or measure	Overall, a total of BGN 403 mio will be spent by mid-2015 to improve public transport systems in seven major cities: Sofia, Burgas, Varna, Plovdiv, Stara Zagora, Pleven, and Ruse (Stroeji 2012). The projects envisage a set of measures for the modernisation of public transport, including automated ticketing systems, passenger information in real time, building new bike lanes, facilitating the access of buses and trams, etc.

[5] There are specific targets for all MS by 2020 for non-ETS GHG emission reductions (see section 2) as well as for the renewable energy share in the energy mix by 2020 (see section 4, renewable energies). Specific energy efficiency targets will be defined (or revised) by the MS until the end of April 2013 in line with the methodology laid out in Article 3 (3) of the Energy Efficiency Directive (Directive 2012/27/EU).

[6] All NRPs are available at: http://ec.europa.eu/europe2020/documents/related-document-type/index_en.htm

Third National Action Plan on Climate Change 2013-2020	
Status as stated in the NRP	In the process of preparing a draft until April 2012
Status as of Jan 2013	The Plan was approved by the Council of Ministers and published by the Ministry of Environment in May 2012 (Ministry of Environment and Water 2012a).
Description of policy or measure	**Priority sectors** (Ministry of Environment and Water 2012b): EE in households: Accelerated gasification, improvement in energy-characteristics of buildings EE in the industry: Alternative fuels, sludge from WWTPs, agricultural waste, and manure Transport: Intelligent transport systems, increasing share of biofuels, developing urban public transport Waste Reducing and preventing generated waste, biogas capturing and combustion Agriculture: Use of crop rotation and erosion control, management of degraded farmlands, water- and energy-saving technologies

Law on Climate Change Mitigation	
Status as stated in the NRP	Planned drafting of a law by the end of 2012
Status as of Jan 2013	The draft law was submitted to Parliament on 21 November 2012. The first reading will take place on 13 February 2013 (Народно събрание на Република България 2013).
Description of policy or measure	The law allocates some ETS auctioning revenues towards projects that contribute to low-carbon development. The draft defines the National Trust Eco Fund as the manger of this money. According to the Bulgarian think tank Energy Management Institute (EMI), the draft does not ensure the full implementation of European regulations, as the government shall assign at least 50% of the revenue from the trading of greenhouse gas emissions to certain activities

Introducing energy saving technologies and using renewable energy sources in enterprises	
Status as stated in the NRP	In the process of implementation under OPDCBE until 2015
Status as of Jan 2013	The call “Investments in Green Industry” expired on 15 February 2012 (Структурни фондове на ЕС 2012).
Description of policy or measure	The main goal of the scheme was to provide incentives for large companies to produce more recyclable products, make more efficient use of waste products, and reduce their energy consumption. In July 2012, PM Borisov awarded contracts to 30 large companies who gained grants under this scheme. The total funding amounted to BGN 78.2 million (Project Media 2012).

Progress report on the commitments made in the National Action Plan for energy from renewable sources	
Status as stated in the NRP	Prepared in December 2011
Status as of Jan 2013	The progress report was published in December 2011 (Министерство на икономиката, енергетиката и туризма 2012).
Description of policy or measure	The report covers the period 2009-2011 and provides information about the total amount of energy consumed from RES, implemented and planned measures to promote production and consumption of energy from RES, and progress in the removal of administrative barriers.

Support for the implementation of energy efficiency measures in the municipal educational infrastructure in urban agglomerations	
Status as stated in the NRP	In the process of implementation under OPRD until 2012
Status as of Jan 2013	The deadline for submission of project proposals under this scheme expired on 21 June 2010 (OPRD 2010a).
Description of policy or measure	After the evaluation of the proposals in October 2010, funding was approved for 23 projects. The total grant amounted to BGN 77.96 million, of which 85% was financed from the ERDF and 15% from the beneficiaries (Europe 2010). Another 24 proposals qualified, but could not be funded due to a lack of sufficient financial resources under this scheme. 23 of these remaining projects were approved in 2012 with a total grant of BGN 53.92 million (OPRD 2012b).

Support for the implementation of energy efficiency measures in the municipal educational infrastructure of 178 small municipalities	
Status as stated in the NRP	In the process of implementation under OPRD until 2012
Status as of Jan 2013	The deadline for submission of project proposals under this scheme expired on 5 June 2010 (OPRD 2010b).
Description of policy or measure	After the evaluation of the proposals in November 2010, funding was approved for 35 projects. The total grant amounted to BGN 26.9 million, of which 85% was financed from the ERDF and 15% from the beneficiaries. Another 37 proposals qualified, but could not be funded due to a lack of sufficient financial resources under this scheme. 32 of these remaining projects were approved in 2012 with a total grant of BGN 22.77 million (OPRD 2012b).

Support for ensuring an appropriate and profitable infrastructure for higher schools in urban agglomerations.	
Status as stated in the NRP	In the process of implementation under OPRD until 2012
Status as of Jan 2013	The deadline for submission of project proposals under this scheme expired on 1 February 2010 (OPRD 2010c).
Description of policy or measure	After the evaluation of the proposals in April 2010, funding was approved for 13 projects. The total grant amounted to BGN 38.32 million, of which 85% was financed from the ERDF and 15% from the beneficiaries. Another two proposals qualified, but could not be funded due to a lack of sufficient financial resources under this scheme (OPRD 2012c).

Support for energy efficiency in multifamily residential buildings	
Status as stated in the NRP	In the process of implementation under OPRD until 2013
Status as of Jan 2013	The deadline for submission of project proposals under this scheme expired on 31 January 2012 (OPRD 2012d).
Description of policy or measure	The specific beneficiary of this scheme is the Directorate Housing Policy within the Ministry which received a grant in the amount of BGN 50.1 million (OPRD 2012c).

Financing energy efficiency measures through the Housing Renovation Fund	
Status as stated in the NRP	In the process of implementation under OPRD
Status as of Jan 2013	The implementation started in April 2012 with a budget of BGN 50 million for energy renovation of multi-family residential buildings. The project is financed by funds from OP “Regional Development” under the scheme “Support for Energy Efficiency in Multifamily Residential Buildings”.
Description of policy or measure	It is expected that about 180 multi-family residential buildings will be renovated in the 36 cities during implementation. Government grants cover 50% of expenses. The Association of the Owners or the individual house owners shall ensure the remaining 50%.

Amendment of the Law on Energy	
Status as stated in the NRP	In the process of implementation until 2012 (adopted by the CoM in 2011)
Status as of Jan 2013	The amendment was submitted to the Committee on Economic Policy, Energy, and Tourism on 1 February 2013 (Народно събрание на Република България 2012a).
Description of policy or measure	According to the amendment, power plants up to 10 MW will not need a licence for the generation of electricity and heat (previously: 5 MW). Furthermore, the regulatory authority cannot regulate prices of energy, natural gas, and services rendered by energy companies in a competitive environment which allows free bargaining at market conditions. According to the provisions, the regulator has a separate budget which is part of the state budget (InvestBulgaria 2012).

Amendment of the Law on Energy Efficiency	
Status as stated in the NRP	In the process of implementation and will be adopted by June 2012
Status as of Jan 2013	The amendment was approved by the Bulgarian Parliament in the first reading on 1 February 2013.
Description of policy or measure	The amendment foresees the development of a national plan to increase the number of buildings with near-zero energy, the introduction of EPCs for new projects, the energy certification of buildings, and the creation of an independent monitoring system for EPCs and inspection reports (Novinite 2013b).

National Energy Efficiency Strategy	
Status as stated in the NRP	In the process of implementation – will be adopted by the CoM by May 2012
Status as of Jan 2013	No further reliable information is currently available on further progress.
Description of policy or measure	Specifics of the strategy

4 Policy development

This section covers significant developments made in key policy areas between May 2012 and January 2013. It does not attempt to describe every instrument in the given thematic area. The time-frame was chosen based upon the release of the National Reform Programmes (in the section above) in April 2012, which contain the status quo for policy on most topics.

Over the course of the last year, Bulgaria has made changes in its energy and climate policy, with mixed effect. Progress has been made in some areas (energy efficiency, and green investment), but other actions have been slowed down or stopped (renewables support).

Horizontal Issues

Bulgaria's share of employment in the renewable energy sector is among the lowest in the EU-27. Its performance in the field of green industry innovation is below the EU average, and its economy is the most energy-intensive in Europe. Bulgaria has the second highest share (after Romania) of environment-dependent economic activities – that is, production based on natural resources including agriculture, forestry, fishing, mining, and electricity generation (European Commission 2012).

The Law on Climate Change Mitigation transposes the revised Directive 2009/29/EC into national Bulgarian legislation. A first draft was published on 16 August 2012 within the framework of a public consultation procedure (EMI 2012). The draft law was submitted to Parliament on 21 November 2012. The first reading will take place on 13 February 2013 (Народно събрание на Република България 2013).

The law allocates some ETS auctioning revenues towards projects that contribute to low-carbon development. The draft defines the National Trust Eco Fund as the manger of this money. According to the Bulgarian think tank Energy Management Institute (EMI), the

draft does not ensure the full implementation of the European regulations, as the government shall assign at least 50% of the revenue from the trading of greenhouse gas emissions to certain activities (EMI 2012).

Environmental Taxation

Bulgaria had the most energy-intensive economy in Europe in 2010.([7]) Therefore, revenues from environmental taxes and energy taxes were high in comparison to other Member States (MS), relative to GDP. These taxes added up to 2.6% of GDP in 2010, when Bulgaria ranked 7th in environmental and 3rd in energy taxes in relation to GDP in the EU (Eurostat 2012). However, the implicit tax on energy consumption was relatively low at less than 80 € per tonne of oil equivalent (toe) in 2009. This corresponds to the 4th lowest value in the EU-27 in 2009 (Eurostat 2013). No recent changes in the use of taxation for environmental or green growth purposes could be identified.

Energy Efficiency

Despite its current first place ranking, the Bulgarian economy used to be even more energy intensive: energy intensity declined 20% between 2005 and 2010. Taking the 2001-2005 average as a baseline, Bulgaria has not significantly changed its final energy consumption. While some reductions occurred between 2006 and 2009, increases in the last two years have nullified these savings (Eurostat 2013). Further energy efficiency development is hampered by the fact that Bulgarian electricity prices are the lowest of the EU-27: €0.068/kWh for industrial consumers and €0.07/kWh for residential consumers in the first half of 2012.

According to a recently published report by Energy Efficiency Watch (EEW, 2013), the Bulgarian energy efficiency policy has made rather little progress in the last three years. The greatest gaps are reported for the transport and residential sector. In these sectors, financing is considered to be the greatest barrier to energy efficiency in Bulgaria. In addition, a general concern is that energy efficiency is not given sufficient political priority at the national level.

Concerning the industry and tertiary sector, individual energy saving targets have been set for 297 industrial systems with an annual consumption over 3,000 MWh. Owners of industrial systems must conduct energy audits every three years.

In the transport sector, several measures, such as highway and parking taxes or subsidy programmes for public transport, have already been implemented. However, the Bulgarian NEEAP does not describe further programmes in detail, and concrete future measures are missing.

With regard to buildings, there is great need for refurbishment, but funding is insufficient. However, some progress has been made due to European Directives and funding from structural funds. A direct subsidy of up to 20% of total costs is provided for the renovation of prefabricated panel buildings. There is financial support for energy audits of residential buildings in communal ownership, and there are grants for energy audits and efficiency measures in multi-family homes. Additionally, EPCs are mandatory for all new buildings within 6 years of commission and for all existing buildings with a TFA over 1,000 m².

[7] Energy intensity is defined by Eurostat as gross inland consumption of energy divided by GDP.

Additionally, all current support schemes addressing energy efficiency and renewable heating in buildings are targeted only at existing buildings. So far, there is no scheme to specifically support energy efficiency and renewable energy in new buildings (Ecofys 2012).

On 1 February 2013, the Bulgarian Parliament approved the amendment of the Energy Efficiency Act, implementing Directive 2010/31/EU. The amendment includes the development of a national plan to increase the number of buildings with near-zero energy, the introduction of Energy Performance Certificates, the energy certification of buildings and buildings components. Furthermore, it foresees the creation of an independent monitoring system for EPCs and inspection reports. Rumen Danev from the ruling party GERB noted that – provided that they meet the criteria – a total of 11,000 buildings would be inspected and issued EPCs under the new provisions. He suggested that the step would boost the standard of living of the population and create jobs for energy efficiency inspectors (Novinite 2013b).

Buildings with a useful total built-up area (TBA) over 500 square metres that are occupied by a public body or frequently visited by citizens will be subject to an obligatory energy efficiency audit and certification aimed at cutting energy consumption and increasing the use of renewable energy. This measure entered into force on 9 January 2013. The TBA of buildings subject to this obligatory certification will be reduced to 250 square metres starting on 9 July 2015.

Renewable Energy

The share of renewable energy in gross final energy consumption increased from 9.5% to 13.8% between 2005 and 2010. Thus, Bulgaria is on track to achieving its 2020 target of 16%. The share of renewable in gross electricity consumption has also increased in the same period from 11.8% to 15.2% (Eurostat 2013).

The outstanding instrument for the promotion of RES in Bulgaria is the feed-in-tariff (FiT) for electricity produced from RES or from high-efficiency co-generation plants feeding into the public grid. After the adoption of the new Renewable Energy Act in May 2011, FiT rates are no longer regulated by law and can be reduced at any time. In September 2012, the regulatory authority SEWRC introduced a retroactive grid usage fee for any renewable energy plant connected to the grid since 2010. These fees cut the tariff rates retroactively by as much as 39% for certain technologies, leading to uncertainty concerning Bulgaria's renewable energy investment climate. The European Commission is currently examining the legality of the Act, as it potentially breaches EU law. Retroactive cuts to a renewable energy support system are among the worst signals for investors in this field.

As per Bulgaria's obligation to use renewable energies for heating, any investment project for a new building with total floor coverage of over 1000 square metres must use decentralised renewable energy heating systems. This regulation is laid down in the Energy Efficiency Act and is also part of the updated Renewable Energy Act. For public buildings, these obligations entered into force on 1 January 2012 - for all other buildings these requirements will become binding from 31 December 2014. Over 15% of the total heating and cooling needed for the building must be produced from renewable energy sources, via use of one or more of the following:

- District heating using biomass or geothermal;

- Individual facilities for burning biomass with an efficiency of >85% for residential and commercial and >70% for industrial buildings;
- Solar thermal installations;
- Heat pumps and near-surface geothermal systems.

Energy Networks

The national grid operator NEK failed to invest in the development of the grid. In the past, many investors had to wait for years for their grid connection (RES Integration 2011).

Moreover, there are no officially published 10-year grid development plans for the distribution grid leading to a lack of allocated budgets for reconstruction and development.

Transport

GHG emissions from transport rose between 2005 and 2011 while the share in total emissions was more or less constant over the same period at 12% (see Table 1). Taxation of transport without fuels is low compared to other MS (Eurostat 2012). Newly registered cars emit on average 151.4 g CO_2/km driven which is 11% more efficient than in 2007. However, this is still 9% above the EU average and thus, Bulgaria is on the third last place in the EU (EEA 2012e).

In 2010, Bulgaria had the lowest share (0.64%) of biofuels in transport fuel consumption in the EU-27 (Eurostat 2013). With the adoption of the REA, the obligatory mixing of liquid oils with biofuels was delayed – it is being implemented in phases, starting from 2012, in order to prevent continuously rising fuel prices. As a result, biofuel development has been impeded and Bulgaria lags behind in achieving its EU target.

Before joining the EU in 2007, Bulgaria treated biofuels as an excise-free product. Despite the fact that the European Commission has allowed biofuels to be excise free, a reduced rate of excise duty for unleaded petrol or gas oil is applied when bioethanol or biodiesel with 4% to 5% of volume has been added. These tax reductions amount to BGN 22 per 1,000 litres of petrol and BGN 34 per 1,000 litres of gas oil. As a consequence, there is currently only one operational biofuel plant in Bulgaria. Before the implementation of the excise duty, ten bio-diesel and six bio-ethanol plants were operating.

The National Action Plan for Electric Mobility was adopted by the Ministry of Economy, Energy and Tourism in November 2012. Electric vehicles are exempted from vignette and municipal taxes, starting from 2013. The National Action Plan also envisages developing charging infrastructure as well as a 5,000 BGN subsidy for every individual or legal entity that purchases an electric vehicle. These measures still require a legally binding implementation.

In December 2012, a new eco-tax was approved that set the tax on importation and registration of used motor vehicles to the fixed amount of BGN 132. Before the increase, the charge was determined according to car type and year of manufacture and for the most part ranged between BGN 50 and 72. According to traders, the increase will mostly affect older cars up to BGN 5,000. The eco-tax shall be paid to the State Enterprise ПУДООС (Enterprise for Environmental Management Activities), which is connected to the Ministry of Environment and Water (Balkanec, 2012).

Waste

After a debate that lasted several years, the Bulgarian Parliament approved a new Waste Management Act on 28 June 2012. The delay led to many changes from the initial version proposed by the Ministry of Environment.

Under the new legislation, municipalities are obliged to have their own scrap yards for metal waste where citizens can dispose old appliances or vehicles free of charge. Municipalities are also required to recycle construction and organic waste. Cities with more than 1,000 inhabitants will have to recycle at least 50% of their household waste. Through these measures, Bulgaria would reduce the waste going to landfills in 2020 by half.

5 Policy progress on past CSRs

As part of the European Semester, Country Specific Recommendations (CSRs) for each MS are provided by the EU Commission in June of each year for consideration and endorsement by the European Council). The recommendations are designed to address the major challenges facing each country in relation to the targets outlined in the EU 2020 Strategy. In the following table, those CSRs that are relevant for climate change and energy that were adopted in 2012 are listed, and their progress towards their implementation is assessed.

Existing Country Specific Recommendations	Progress
Measures to remove market barriers. Guaranteed profit arrangements and price controls Ensure the independence of transmission and distribution system operators	Despite the clear requirements for unbundling, the National Electric Company (NEK) and the Electricity/Transmission System Operator (ESO) are still closely linked. No ownership unbundling has taken place and ESO is completely owned by NEK. There are concerns over the Bulgarian Government's plans to introduce changes to the renewable energy legislation to allow funds collected by one division of the company (NEK) to be used for another division of the company (ESO) and vice versa.
Complete market design in particular for the energy exchanges and balancing markets	There are currently no functioning wholesale electricity exchanges in Bulgaria.
Improve electricity and gas connections	NEK failed to invest in the development of the grid. In the past, many investors have had to wait for years for their grid connection. Several big wind or PV parks were unable to be connected to the grid (RES Integration 2011).
Enhance capacity to cope with disruptions	The infrastructure to accommodate energy from RES is still lacking. Moreover, there are no officially published 10-year grid development plans for the distribution grid, leading to a lack of allocated budgets for reconstruction and development.
Boost energy efficiency	Currently, there is a building obligation in place and an obligatory energy efficiency audit and certification scheme for public buildings (see: Policy development). No significant progress has been made in other areas of energy usage.

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