The gaps of renewable energy legislation in Bulgaria

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Abstract. Nowadays when the climate changes are of a worldwide vital importance, the European Union is on the way to trach the 2020 targets for smart and sustainable development. The set in 2007 targets are on the way to be even exceeded till the end of 2020 when EU is expecting to report at least a 20% greenhouse emission reduction from their levels in 1990, 20% gross final energy consumption by renewable energy sources and 20% energy efficiency improvement. That satisfactory result isn’t enough to reflect the climate changes with the speed of their consequences. Namely, because of this the EU has put in place a legislation frames to achieve new climate and energy targets up to 2030. While the EU is working on fulfilling a decarbonisation strategy and insuring a legislative framework via Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources for all EU member states, Bulgarian parliament transposed the Directive into a Law for energy from renewable sources which from 2011 after its’ first acceptance till 2019 was changes 18 times, 4 of which in only 1 year (2013). This paper underlines some of the legislative gaps between the Directive 2009/28/EC and the Bulgarian legislation, the contraries between the EU and Bulgarian kind of fulfilment of a main target to stimulate the investments in renewable energy and on the other side the contraries in the internal Bulgarian regulation papers which negatively reflect the investment intends in the country.

1. Introduction
The energy mix of all EU member states is changed significantly over the last 10 years when the RES energy is growing thanks to the implemented proactive measures for RES promotion. The set in 2007 targets are on the way to be even exceeded till the end of 2020 when EU is expecting to report at least a 20% greenhouse gas emission reduction from their levels in 1990, 20% gross final energy consumption produced by renewable energy sources and 20% energy efficiency improvement [1]. That satisfactory from statistical point of view result isn’t enough to reflect the climate changes with the speed of their consequences. Despite the fact that the nature is “getting a break” from humans because of COVID 19 disease economy reflections [2], 2020 is announced by WWF as a critical year for our future and for the climate [3]. The first quarter of 2020 had been recorded as the hottest year in the history till now. One of the facts that proof it is the unprecedented heatwave that hit Siberia with temperatures reaching 30°C where the normal one is 0°C. Or this is a temperatures up to 10% above average [4].These are just some of the evidences which remind that the climate change fight must go on. The European RES policy is still developing and new aims to reach by 2030 are at least 40% cuts in greenhouse gas emissions (from 1990 levels), 32% share for renewable energy and 32.5% improvement in energy efficiency [5].
While the European parliament is working on fulfilling a decarbonisation strategy and insuring a legislative framework in the renewable energy filed as one of the major sector which contribute to the climate change, the Bulgarian parliament is conducting an opposite direction policy. This paper aims to highlight the main legislative gaps regarding RES sector development based on comparison and analysis of the EU and the Bulgarian’s renewable promotion policy and legislation.

2. Discussion

The main political stream of the EU regarding energy production and consumption is strongly influenced by the need of a rapid change of the total attitude of production and consumption especially when structuring the national and the EU energy mix. The EU common policy regarding renewables in the last 20 years integrates the environmental protection goals as an attempt to oppose and adapt to climate change. As an emphasis of these efforts the Directive 2009/28/EC promoting renewables is brought in the EU regulation [6]. EU counsel, taking into account the geographic location of the countries and estimated renewables’ potential, the structure of the national energy mix and the preparedness of the grid of the EU member state etc., set in some derogation regarding starting point and defined 2020 RES target levels for some of the EU countries. Bulgaria is among these countries with 2020 target of 16 % - share in gross final energy consumption of energy produced by renewable source. Figure 1 shows the reached percentage of gross final energy consumption by renewable energy by the EU (28) up to 2020 where only 9 countries among which Bulgaria is, fulfill their 2020 target. Most of the rest 19 EU member states are even not close to their target [7].

![Figure 1. Renewable energy sources’ share in gross final energy Consumption, 2020 (EU, 28).](image_url)

In Bulgaria, the Directive had been transposed into a Law for energy from renewable sources (LERS) with 6 months delay [8]. This instantly means time shortage for reaching the 2015 and 2020 RES aims.

The Energy from renewable sources act aims are set in Article 2: The primary objectives of this Act are as follows:

1. promotion of production and consumption of energy produced from RES;
2. promotion of production and use of biofuels and energy from RES in transport;
3. Creating conditions for integrating gas from RES in the natural gas transmission and distribution networks;
4. Creation of conditions for inclusion of heating and cooling from RES in heating transmission networks;
5. Providing information regarding the possible support schemes…;
6. Creating conditions for achieving sustainable and competitive energy policy and economic growth through innovation, and implementation of new products and technologies;
7. Creating conditions for achieving sustainable development at regional and local levels;
8. Creating conditions for increasing the competitiveness of small- and medium-size enterprises by production and consumption of electricity, heating and cooling from renewable sources;
9. Security of energy deliveries, supplies and technical safety;
10. Environmental protection and restricting climate change;
11. Improving the living standards of the population through economically efficient use of energy from renewable sources [8].

The Act regulates the Governors in the renewable energy field. Since 2011 after the LERS first acceptance from the Bulgarian Parliament until 2019, the law had been changed 18 times, 4 of which just in only 1 year - 2013. Last changes from 21 May 2019 are in force from the same date. The numerals changes in this law create preconditions for not attempted mistakes and errors in act implementation beside the insecurity and the fluctuations in the RES policy implemented in Bulgaria. In accordance to the Directive 2009/28/EC and the LERS, the Minister of Energy has to report to the EU the overall national target progress and achievement in every 2 years till the final one in 2020. As mentioned before the 2020 target for Bulgaria is 16% (based on 9.4% share in 2005) RES in gross final energy consumption when 20% is the target for the most EU member states. This target is broken down to: 20.8% share of electricity from RES in gross final energy consumption, 23.8% share of heating and cooling from RES in gross final consumption of energy form heating and cooling and 10.8% share of energy consumption in the transport sector [9].

Till June 2020 four national progress reports regarding the Directive 2009/28/EC are published. In the Forth National progress report regarding the period 2015-2016 (issued in December 2017), 18.8% RES in gross final energy consumption is announced as reached in 2016. The reported achievements till 2016 are presented on Table 1 [10]. Thus the percentage for heating and cooling exceeds the specific 2020 target. Meanwhile the achievement regarding the energy share percentage for transport is much lower than the target. Namely because the state had accepted that the 2020 target is reached in 2016, the conducted policy isn’t stimulating the investment in the renewable energy field as it should be according to the Directive 2009/28/EC.

| Table 1. The sectoral and overall shares of renewable energy sources, Bulgaria 2011-2016. |
|-------------------------------------------------|--------|--------|--------|--------|--------|--------|
| RES-H&C 1                                         | 24.9% | 27.5% | 29.2% | 28.3% | 28.6% | 30%    |
| RES-E 2                                           | 12.9% | 16.1% | 18.9% | 18.9% | 19.1% | 19.2%  |
| RES-T 3                                           | 0.8%  | 0.6%  | 6.0%  | 5.8%  | 6.5%  | 7.3%   |
| Overall RES share                                 | 14.3% | 16.1% | 19.0% | 18.0% | 18.2% | 18.8%  |

1 Share of renewable energy in heating and cooling: gross final consumption of energy from renewable sources for heating and cooling
2 Share of renewable energy, used for electricity: gross final consumption of electricity from renewable sources for electricity
3 Share of renewable energy in transport: final energy from renewable sources consumed in transport

The following facts in the Fourth progress report are taken into account:
In the part for counting the Biomass gross final energy consumption all the 59% of the population of the country who use wood mainly for household purposes are included [10]. The use of a wood stove is not a part of the renewable energy sources if it do not meet the sustainable criteria of paragraph 1 of Article 5 of the Directive. From table 1 can be seen that using RES for heating and cooling (where the wood for household use is counted as a biomass) for 2016 is 30% and forms more of the percentage for electricity and transport.
Another concern is regards the used data in the report. The state use data from the National Statistic Authority (NSA) and Ministry of Agriculture instead of using exact data from the Energy System Operator (ESO) who is operating the grid, the export and import, the balance, the production and consumption of each producer in the energy mix. The data used from the NSA is different measurement unit (m³, instead of ktoe or MW,MWh) and in most part of the report the different types of renewable systems data is in different unit, which makes the data not comparable, respectively it put another doubt about the way of counting the percentage of gross final energy consumption.

The contraries between the LERS and the Directive are in result of the announced reached target. According to Article 18(1) the benefits provided by LERS as: “Production of electricity from renewable resources etc…, shall be encouraged by: “item 6 - purchasing of the produced electricity…; item 7- setting a preferential price for renewable energy up to 10MW…; item 8- setting a preferential prices for renewable energy from biomass…, are canceled with the same article but with paragraph (2) which says that the benefits under art.18(1) item 6,7 and 8 shall not apply to energy facilities for production of electricity from renewable sources, the connection of which is applied for after the date of the report of the Minister of Energy, in which it is reported that the overall national target under, is achieved. This means that all renewable energy projects’ applications after 2012, when Bulgaria declare 16,1% achievement, which is just 1 year after the law for renewable energy was adopted, had to be canceled.

Meanwhile for that application, each investor had to do two advance payment:
- A payment of 2500Euro per MW under art. 23 (8) which payment stay in favour of the grid operator;
- A payment on the amount from 12 500 up to 25 000 Euro per MW whether the project is more than 5MW by Article 29(1), when the investor apply for grid connection.

Talking about energy project with 200MW capacity, this means that investor have to pay 3 mln. Euro in advance for a project which future is not clear. Nevertheless this tax is payable even if the producer do not use preferential prices or feed in tariffs. From the other side other electricity producers using gas or convention sources are not obliged to pay it at all.

Another contrary is that under Article 23(2) Application can be list only after the Energy and water regulatory commission (EWRC) accepts available grid connection capacity. Under Article 22(5) every year till 30-th of June the Energy and water regulatory commission must publish on their web-site the available substation capacity. Available grid connection was not accepted and published on the web-page of the EWRC after 2012 till nowadays [11].

According to the LERS the advance payment should be used for the purpose of the grid connection. Thus another legislative gab is at hand. Once the investors is responsible for the project grid connection to the border of his property under art.27(1). Under point (2) after the border of the property the expenses for the grid connection is on the account of the grid operator [6].

Looking backward in the RES field for many years, the Bulgarian state practice double finance of some of the projects, mostly photovoltaic. The State once provided national grands and finance up to 80% the investments in photovoltaic projects and secondly they provide preferential prices to the same investors who developed projects with money of the resident taxpayer. In addition to that the preferential prices for energy from photovoltaic projects (PV) were artificially kept very high for a period of 4 years at levels between 400 and 300 Euro per MWh. At that time the law for renewable energy provided long term guaranteed contracts for a period of 25 years for PV project. Most of the installed PV projects are in exploitation before the reduction of that price in 2014. In comparison to the PV projects’ the price per MW for wind energy projects varies between 98-48 Euro per MW with 20 years long-term guaranteed contract [11]. If for 2016, 699MW is the installed wind energy capacity, the PV project total capacity for the same period is 1028 MW [12]. As it is shown on Figure 2 in percentages, the installed electricity capacity share in Bulgaria up to 2019 is 8% for the PV projects, wheathear the wind projects take 5% [13]. This is one of the reasons why the end consumer is now paying a very high-electricity price in comparison with the standard of the country. According to the stakeholders, the RES energy is the blamed for the high price of the electricity in Bulgaria. Even this fact contradicts to the main idea of promotion of energy production and consumption.
Another reason for the higher price of electricity is the higher and also double taxation of RES energy producers under the Energy Act in force since 9 December 2003. According to the act all producers of electricity pay both transmission and access tax to the grid, but RES energy for electricity pay higher taxes that brought another inequality in the energy sector [14]. The Energy and water regulatory commission (EWRC) of Bulgaria annually accepts the taxes. EWRC’s statement for accepting the different taxation among energy producers is the nonpermanent production of the renewable sources and the need of balance. For that reason on the top of each taxes payable by the renewable energy producer, there is a separate balance tax, which aim to compensate the nonpermanent production. In fact, instead of promotion of RES the Bulgarian practice shows privilege position of producers of nonrenewable energy of electricity.

Even, if we can accept that the announce percentage is reached 18.8% and exceed the target of 16% the Bulgarian state can use the advantage of the Directive 2009/28/EC which allow statistical transfer of renewable energy to other EU member states[6]. The method for statistical transfer isn’t working in Bulgaria in practice till nowadays. This means that the population of the Bulgarian state consumes all renewable energy and just the cheaper energy form the nuclear power plant and energy from thermal power plant is exported. This makes another concern about controlling the percentage reported in the progress report. If you want to announce a bigger percentage in gross final energy consumption, you could do not sell RES energy to other EU member states and keep the whole RES energy for internal use. But, when the state announce that the target is achieved already in 2016, then why the statistical methods are not working? By making the statistical transfer, the state could reach both social and economic effects by selling the exceeded percentage of RES energy abroad. By using the geographical resources economically efficiently the state will be able to insure the energy security and independency as well as to become a key player in the renewable energy market, as by 2020 there are 10 EU Member States that cannot reach their target[12].

3. Conclusion
In the field of RES sector, there still are contradicting requirements and energy legislatives act’s born gabs. The RES sector in Bulgaria still needs to overcome barriers as double taxation and complicated permitting procedure. Thus, the main aims of LERS- creating conditions for achieving sustainable and competitive energy policy and economic growth through innovation, and implementation of new products and technologies, creating conditions for achieving sustainable development at regional and local levels, creating conditions for increasing the competitiveness of small- and medium-size enterprises by production and consumption of electricity, heating and cooling from renewable sources, are not satisfied yet. The lack of accepted available grid connection capacity (since 2012) together with the non-announces preferential price (concerning the middle and large-scale projects), RES are substantial weakness in the practice of implementation of RES policy in Bulgaria.
The bottom line of promotion of RES is partially compromised by the persisting legislative gaps in RES sector and the existing inequalities between energy producers in Bulgaria. On our opinion, based on presented facts and findings of this research the unstable and incoherent practice of regulation of RES promotion implementation still is at hand in our country. The results of that kind of policy implementation is visible in the progress reports where the installed capacity of 699MW of wind power announced in the 3-th progress report (for the period of 2013) do not increase in the following 4-th and 5-th progress reports. This once more reaffirmed the results of the written above policy providing.

Highlighting the gaps and barriers faced by RES sector could be helpful in the context of overcoming the insufficiency of administrative capacity in the field of RES in Bulgaria.

In order the State to follows the declared in the integrated plan policy [15] the identified gaps in the renewable energy framework should be overcome with active participation of RES producers organization, so the further development of energy sector to be insured. All measures should be taken at an early stage and a consistent policy should be sustainably implemented to attracting new investors, through an adopted RES promotion policy that complies with the main objectives of the Directive 2009/28/EC and the newly announced EU 2030 RES targets.

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