# Montenegro Progress Reports under

# Renewable Energy Directive 2009/28/EC as adapted by the

# Ministerial Council Decision 2012/04/MC-EnC

# period 2018-2019

## INTRODUCTION

Pursuant to 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 and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance) (hereinafter: the Directive), the Republic of Montenegro assumed the obligation to increase the use of renewables to reach at least a 33% share of energy from renewable sources in gross final consumption at the EU level by 2020. That goal was determined by applying the Directive methodology with the base year being 2009.

Article 22 of the Directive requires Member States to submit a report to the Commission on progress in the promotion and use of energy from renewable sources by 31 December 2011, and every two years thereafter. The last report, which should be submitted by 31 December 2021, is a report for 2020.

Member State reports are important for monitoring overall renewable energy policy developments and Member State compliance with the measures set out in the Directive and the National Renewable Energy Action Plan of each Member State. The data included in these reports will also serve to measure the impacts referred to in Article 23 of the Directive.

The report by the Republic of Montenegro on progress in the promotion and use of energy from renewable sources, pursuant to Article 22 of 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, was prepared according to the template for Member State progress reports under Directive 2009/28/EC, which is available on the website of the European Commission's Directorate General for Energy.

The purpose of the template is to help ensure that the reports prepared by Member States are complete, cover all the requirements laid down in Article 22 of the Directive and are comparable with other reports and National Renewable Energy Action Plans. Much of the template draws on the template for the National Renewable Energy Action Plans.

The Report on the implementation of the National Action Plan for the Use of Energy from Renewable Sources until 2020 for the period 2018 - 2019 has been filled out in accordance with the provisions of the Rulebook on calculating the share of energy from renewable sources in total final energy consumption, energy content and calculation of total energy consumption used in traffic, method of calculating the amount of electricity produced in hydro and wind power plants and method of calculating the amount of energy from heat pumps ("Official Gazette of Montenegro" number: 34/17, 42/21 and 82/20) which has been drawn up in accordance with the calculation rules set out in Directive 2009/28 / EC and Regulation (EC) No 882/2004. 1099/2008 of the European Parliament and of the Council.

In line with the obligations Montenegro has as a member of Energy Community, the Directive 2009/28/EC has been implemented into the Energy Law (“Official Gazette of Montenegro” number 5/16 and 51/17), in the part concerning electricity and energy used for heating and/or cooling. According to the article 19 in the Energy Law, implementation of the Action Plan should be followed by the Ministry of Energy and a progress report should be submitted to the Montenegro Government and Energy Community. Progress Report must have an analysis of reaching the national goal of individual shares (electricity, heating and cooling, transport), as well as total share of renewable energy sources in the final energy consumption in the period under observation.

In the meantime, amendments to the Law on Energy (“Official Gazette of Montenegro” No. 82/20) were adopted, which stipulates that the realization of the obligatory share of energy from renewable sources in the total final energy consumption is in the public interest, in accordance with the obligations under the ratified international agreement. The amendment to the law stipulates as a novelty that the sources and scope of energy use from renewable sources will be determined by the National Energy and Climate Plan (NECP) instead of the current National Action Plan for the Use of Energy from Renewable Sources. Until the adoption of the NECP in accordance with the amendments to the law, Article 236, stipulates that the National Action Plan for the Use of Energy from Renewable Sources until 2020, adopted on

the basis of the Law on Energy ("Official Gazette of Montenegro" No. 28/10, 6) / 13 and 10/15). In addition, Article 236b stipulates that Reporting on the implementation of the National Action Plan for the Use of Energy from Renewable Energy Sources until 2020 will continue in accordance with the provisions of the Law on Energy ("Official Gazette of Montenegro", No. 5/16 and 51/17).

Activities on the development of the first NECP started in 2019 were intensified in 2020 and 2021. Support for the development of this document was provided within the project Development of Climate Policy Capacities in the countries of Southeast and Eastern Europe, South Caucasus and Central Asia - Phase III, for the implementation of which GIZ is responsible. The project is implemented in close cooperation with the Secretariat of the Energy Community in order to meet the prescribed obligations. A draft of the first three chapters of the NEKP has been prepared, a modeling framework has been established, scenarios to be considered have been defined and a model of policies and measures has been prepared.

Regarding the existing legislative framework, Montenegro is currently obliged to prepare two reports on the implementation of the National Action Plan for the Use of Energy from Renewable Sources until 2020, one for the period 2018-2019 and the other for 2020. In this regard, the Ministry of Capital Investments, through the public procurement procedure in order to prepare the subject reports, engaged the Faculty of Mechanical Engineering, University of Montenegro. For the purposes of preparing this report, MONSTAT data were used. Report on the implementation of the National Action Plan for the Use of Energy from Renewable Sources until 2020 for the period 2018-2019., the same batch analysis of data was made, which ultimately reflects the degree of achievement of the national goal.

**1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years (2018. and 2019.) *(Article 22 (1) a of Directive 2009/28/EC)*.**

**Sectoral goals and indicative pathways**

The Directive 2009/28/EC defines goals for shares of renewable energy sources in year 2020 in the following sectors: electricity, heating and cooling and transport.

Three sectoral goals were calculated for year 2020 from the base scenario:

Electricity: 51.4%
Heating and cooling: 38.2%
Transport: 10.2%

***Table 1*: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources[1]**

| | 2019 | 2018 |
|---|---|---|
| RES-H&C[2] [3](%) | 57.61 | 59.45 |
| RES-E[4] (%) | 56.66 | 57.58 |
| RES-T[5] (%) | 1.71 | 1.66 |
| Overall RES share[6] (%) | **38.69** | **39.75** |
| *Of which from cooperation mechanism[7] (%)* | - | - |
| *Surplus for cooperation mechanism[8] (%)* | - | - |

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

| | 2019 | 2018 |
|---|---|---|
| (A) Gross final consumption of RES for heating and cooling | 146.49 | 150.7 |
| (B) Gross final consumption of electricity from RES | 179.08 | 172.46 |
| (C) Gross final consumption of energy from RES in transport | 4.27 | 3.96 |

[1] Facilitates comparison with Table 3 and Table 4a of the NREAPs.
[2] 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 NREAPs applies.
[3] When calculating the share of renewable energy sources in heating and cooling, the data for firewood from Statistical Office of Montenegro as well as data about the harvested trees was used. The moisture content is 20%, in line with the Manual for wood biomass fuel.
[4] Share of renewable energy in electricity: gross final consumption of electricity from renewable sources for electricity (as defined in Articles 5(1)a) and 5(3) of Directive 2009/28/EC divided by total gross final consumption of electricity. The same methodology as in Table 3 of NREAPs applies.
[5] Share of renewable energy in transport: final energy from renewable sources consumed in transport (cf. Article 5(1)c) and 5(5) of Directive 2009/28/EC divided by the consumption in transport of 1) petrol; 2) diesel; 3) biofuels used in road and rail transport and 4) electricity in land transport (as reflected in row 3 of Table 1). The same methodology as in Table 3 of NREAPs applies.
[6] Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.
[7] In percentage point of overall RES share.
[8] In percentage point of overall RES share.
[9] Facilitates comparison with Table 4a of the NREAPs

| | | |
|---|---|---|
| (D) Gross total RES consumption[10] | 329.85 | 327.12 |
| (E) Transfer of RES to other Contracting Parties or Member States | - | - |
| (F) Transfer of RES from other Contracting Parties and 3rd countries | - | - |
| (G) RES consumption adjusted for target (D)-(E)+(F) | 329.85 | 327.12 |

[10]According to Art.5(1)of Directive 2009/28/EC gas, electricity and hydrogen from renewable energy sources shall only be considered once. No double counting is allowed.

***Table 1.b*: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in Montenegro to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity[11]**

| | 2019 | | 2018 | |
|---|---|---|---|---|
| | **MW** | **GWh** | **MW** | **GWh** |
| Hydro[12]: | **675.243** | 1832.65 | **675.607** | 1846.02 |
| non pumped | | | | |
| *<1MW* | 8.399 | | 7.763 | |
| *1MW–10 MW* | 18.844 | | 18.844 | |
| *>10MW* | 649 | | 649 | |
| *pumped* | | - | | - |
| *mixed[13]* | | - | | - |
| Geothermal | | - | | - |
| Solar: | **1.979** | 2.3 | / | 2.3 |
| *photovoltaic* | 1.979 | 2.3 | / | 2.3 |
| *concentrated solar power* | / | - | / | - |
| Tide, wave, ocean | | - | | - |
| Wind: | **118** | 247.75 | **72** | 157.33 |
| *onshore* | 118 | 247.75 | 72 | 157.33 |
| *offshore* | / | - | / | - |
| Biomass[14]: | / | - | / | - |
| *solid biomass* | / | - | / | - |
| *biogas* | / | - | / | - |
| *bioliquids* | / | - | / | - |
| **TOTAL** | **796.222** | 2082.69 | **747.607** | 2005.65 |
| *of which in CHP* | | - | | - |

***Table 1c*: Total actual contribution (final energy consumption[15]) from each renewable energy technology in Montenegro to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in heating and cooling (ktoe)[16]**

| | 2019 | 2018 |
|---|---|---|
| Geothermal (excluding low temperature geothermal heat in heat pump applications) | - | - |
| Solar | - | - |
| Biomass[17]: | 146.49 | 150.7 |
| *solid biomass* | 146.49 | 150.7 |
| *biogas* | - | - |
| *bioliquids* | - | - |
| Renewable energy from heat pumps:<br>- of which aerothermal<br>- of which geothermal<br>- of which hydrothermal | - | - |
| **TOTAL** | - | - |
| *Of which DH*[18] | - | - |
| *Of which biomass in households[19]* | - | - |
| | 146.49 | 150.7 |

[11] Facilitates comparison with Table 10a of the NREAPs.
[12] Normalised in accordance with Directive2009/28/EC and Eurostat methodology.
[13] In accordance with new Eurostat methodology.
[14] Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.
[15] Direct use and district heat as defined in Article 5.4 of Directive 2009/28/EC.
[16] Facilitates comparison with Table 11 of the NREAPs.
[17] Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) last subparagraph of Directive 2009/28/EC.
[18] District heating and / or cooling from total renewable heating and cooling consumption (RES- DH).
[19] From the total renewable heating and cooling consumption.

***Table 1d:*** **Total actual contribution from each renewable energy technology in Montenegro to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources <u>in the transport sector</u> (ktoe)[20],[21]**

| | 2019 | 2018 |
|---|---|---|
| Bioethanol/ bio-ETBE | - | - |
| *Of which Biofuels[22] Article 21.2* | - | - |
| *Of which imported[23]* | - | - |
| Biodiesel | - | - |
| *Of which Biofuels[24] Article 21.2* | - | - |
| *Of which imported[25]* | - | - |
| Hydrogen from renewables | - | - |
| Renewable electricity | 4.27 | 3.96 |
| *Of which road transport* | - | - |
| *Of which non-road transport* | 4.27 | 3.96 |
| Others (as biogas, vegetable oils, etc.) – please specify | - | - |
| *Of which Biofuels[26] Article 21.2* | - | - |
| **TOTAL** | 4.27 | 3.96 |

[20] For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.
[21] Facilitates comparison with Table 12 of the NREAPs.
[22] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
[23] From the whole amount of bioethanol / bio-ETBE.
[24] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
[25] From the whole amount of biodiesel.
[26] Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

**2. Measures taken <u>in the preceding 2 years</u> 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*: Overview of all policies and measures**

| Name and reference of the measure | Type of measure* | Expected result** | Targeted group and or activity*** | Existing or planned*** | Start and end dates of the measure |
|---|---|---|---|---|---|
| 1. Feed-in tariffs for electricity produced in power plants using renewable energy sources and power plants for high efficiency cogeneration (plants of privileged producers) | Financial | 51.4 % of electricity from RES in gross final electricity consumption in 2020 | Investors - Privileged producers | Existing | 2010- |
| 2. Priority in delivery of total electricity generated in power plants of privileged producers into the transmission or distribution system | Regulatory | | | | |
| 3. Exemption of charges for imbalances by the system operator for privileged producers | Regulatory | | | | |
| 4. Compulsory minimal share of electricity from renewable energy sources in the total electricity supply that shall be procured by each supplier of electricity | Regulatory | | Suppliers of electricity and self-producers | Existing | 2010- |
| 5. Guarantees of origin | Regulatory | Evidencing the origin of energy generated from RES | RES and cogeneration producers | Existing | 2010- |

| Name and reference of the measure | Type of measure* | Expected result** | Targeted group and or activity*** | Existing or planned**** | Start and end dates of the measure |
|---|---|---|---|---|---|
| 6. Policy and support schemes for promoting use of renewable energy sources in heating and cooling | Regulatory / Financial | Greater use of national RES potential for heating and cooling | Investors | Existing | 2015- |
| 7. Implementation of regular energy audits of heating systems and air conditioning systems | | | Ministry of Economy, owners of buildings /heating and air conditioning system | | |
| 8. Obligation for new buildings in certain climate zones to cover a quota of their energy needs for domestic hot water with renewable sources (solar thermal systems) | Regulatory | Increased use of RES in buildings | Investors; HVAC designers | Existing | 2013- |
| 9. Improvement of energy performance of buildings in the public sector:<br>**Montenegro Energy Efficiency Project (MEEP)** - Implementation of energy efficiency measures in six healthcare buildings and nine educational buildings<br>**Energy Efficiency Programme in Public Buildings (EEPPB)** - Improvement of the energy efficiency, comfort and working conditions in the selected educational buildings (kindergartens, primary and secondary schools and student dormitories) | | | Ministry of Economy; Ministry of Finance; state authorities | | |
| 10. Establishment and implementation of EE criteria in public procurement of goods and services, as well as in purchase and rental of buildings | Regulatory | Increase of energy efficacy | Ministry of Economy, Ministry of Finance, authorities responsible for | Existing | 2013 |

| Name and reference of the measure | Type of measure* | Expected result** | Targeted group and or activity*** | Existing or planned*** | Start and end dates of the measure |
|---|---|---|---|---|---|
| | | | implementation of public procurement | | |
| 11.Programmes of support for using RES in households and other sectors:<br>**MONTESOL** - Interest-free credit line for installation of solar-thermal systems for households<br>**SOLARNI KATUNI -** Project related to installation of photovoltaic solar systems in summer pasture lands<br>**ENERGY WOOD II** - Interest-free credit line for installation of heating systems on modern biomass fuels (pellets, briquettes) for households<br>**ENERGY EFFICIENT HOME** – credit line without interest for the installation of heating systems run on modern forms of biomass (pellets, briquettes), efficient façade woodwork and façade thermal insulation. | Financial | Energy and economic savings; Increased use of RES in buildings; Creation of a market for utilization of solar/bio- mass energy | Investors – households; Eligible dealers and installers; Banks | Existing and planned | 2011- |
| 12. Program of subsidies in some municipalities for the installation of solar systems in new buildings by reducing utility costs (fees for utility lands) | Financial | Increased use of RES in buildings | Investors | Existing | 2009- |
| 13. Incentive program related to the use of solar energy in the tourism sector | | | Ministry of Economy, Ministry of Sustainable Development and Tourism | | 2015- |

| Name and reference of the measure | Type of measure* | Expected result** | Targeted group and or activity*** | Existing or planned**** | Start and end dates of the measure |
|---|---|---|---|---|---|
| 14. Policy and support schemes for promoting use of renewable energy sources in transport (including obligations of placing biofuels on the market) | Regulatory Financial | 10,2 % RES in transport in 2020 | Ministry of Economy, Ministry of Sustainable Development and Tourism, local self-government units | Planned | 2015- |
| 15. Infrastructural measures in the transport sector with the energy savings effects | | | | | |
| 16. Study - Action Plan on energy efficiency in transport | | | | | |
| 17. Establishment and implementation of EE criteria in public procurement of vehicles and transport services in the wider public sector | | | | | |
| 18. Development and application of regulatory framework for energy efficient buildings | Regulatory Financial | A measure that ensures compliance of energy efficient buildings standards | Participants in the construction, owners of the building that are being reconstructed, owners of the buildings that are being sold | Existing | 2013 |

* Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).
**Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?
***Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc? or what is the targeted activity / sector: biofuel production, energetic use of animal manure, etc)?
**** Does this measure replace or complement measures contained in Table 5 of the NREAP?

**2.a Please describe the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy. *(Article 22(1)e) of Directive 2009/28/EC))*.**

Montenegro has adopted the most important documents (Energy Policy, Energy Development Strategy of Montenegro until 2030, the Law on Energy, the Law on Strategic Environmental Assessment and the National Action Plan for the Use of Energy from Renewable Sources until 2020), and the last adopted the document is an Action Plan for the implementation of the Energy Development Strategy until 2030. The Action Plan (AP) is complementary to the Strategy as both documents have the same goal: to concretize the vision of energy development and to identify the ways in which that vision will be realized. These are the most important documents for the development of renewable sources in Montenegro.

Competent Ministry for energy (Directorate for Energy and Energy Efficiency) is responsible for monitoring the implementation of the National Action Plan. Article 19 of the Law on Energy ("Official Gazette of Montenegro", No. 5/16 and 51/17) provides a detailed overview of the process of monitoring the implementation of the action plan, which includes a thorough and continuous assessment of all procedures and data related to production and distribution of energy from renewable sources.

During 2020, amendments to the Law on Energy ("Official Gazette of Montenegro" No. 82/20) were adopted, which stipulates that the realization of the mandatory share of energy from renewable sources in the total final energy consumption is of public interest, in accordance with the commitments international agreement. The amendment to the law stipulates as a novelty that the sources and scope of energy use from renewable sources will be determined by the National Energy and Climate Plan (NECP) instead of the current National Action Plan for the Use of Energy from Renewable Sources.

Until the adoption of the NECP in accordance with the amendments to the law, Article 236, stipulates that the National Action Plan for the Use of Energy from Renewable Sources until 2020, adopted on the basis of the Law on Energy ("Official Gazette of Montenegro" No. 28/10, 6) / 13 and 10/15). In addition, Article 236b stipulates that Reporting on the implementation of the National Action Plan for the Use of Energy from Renewable Energy Sources until 2020 will continue in accordance with the provisions of the Law on Energy ("Official Gazette of Montenegro", No. 5/16 and 51/17).

Activities on the development of the first NEKP started in 2019 were intensified in 2020 and 2021. Support for the development of this document was provided within the project Development of Climate Policy Capacities in the countries of Southeast and Eastern Europe, South Caucasus and Central Asia - Phase III, for the implementation of which GIZ is responsible. The project is implemented in close cooperation with the Secretariat of the Energy Community in order to meet the prescribed obligations. A draft of the first three chapters of the NEKP has been prepared, a modeling framework has been established, scenarios to be considered have been defined and a model of policies and measures has been prepared.

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

According to Article 107 of the Law on Energy ("Official Gazette of Montenegro", No. 5/16, 51/17 and 82/20), eligible producers have the right of priority in taking over the total produced electricity into the transmission or distribution system, unless the security is endangered system operation. According to Article 112 of the said Law, in the process of transmission system management, the transmission system operator gives priority to taking over electricity produced from renewable energy sources or highly efficient cogeneration to the extent that it allows safe and reliable operation of the electricity system. Article 116 stipulates the same for the distribution system operator.

Article 175 of the Energy Law stipulates that the operator of the transmission or distribution system of electricity or gas is obliged to issue a consent for connection to the system and provide priority in connecting energy facilities for production of energy from renewable sources, if there are no technical restrictions in transmission or distribution system and if the devices and installations of the connected facility meet the conditions determined by law and technical regulations.

Article 107 of the Energy Law stipulates that eligible producers are entitled to incentive measures that are valid at the time of applying for temporary status of eligible producer, or if it has not acquired temporary status, to incentive measures that are valid at the time of applying for eligible status of eligible producer of electricity. Energy. If the transmission or distribution system operator, due to the security of the system, cannot give preference to the privileged producer, it is obliged to inform the Energy Regulatory Agency and determine corrective measures to prevent further denial of access to the system.

In accordance with the Law on Energy, the costs of connection to the transmission system or distribution system are paid by the system user. According to the connection procedure defined in the Rules for the functioning of the distribution system, the investor bears the costs of issuing conditions for connection, decisions on giving consent to that connection, connection costs, costs of construction of lines and devices to the connection point, costs of necessary interventions in the distribution network. and the delivery of electricity produced in power plants.

According to the methodology for determining prices, deadlines and conditions for connection to the distribution system, the connection of production facilities to the distribution system is classified as a "non-standard connection". The calculation of costs for a "non-standard connection" is done within the economic study, which must be prepared separately for each connection.

Connection costs are determined depending on the type and scope of work to be performed in order to connect the facility to the distribution system, in accordance with the following criteria: approved installed power, voltage level of the network to which the user connects, distance from existing network, number of phases, number and type of measuring devices, type and cross-section of lines, type of equipment, type of devices and materials that are installed in accordance with technical regulations, the need to obtain projects and other documentation required for the construction of the connection and other works. Connection costs include costs for equipment, devices and materials, costs of works, mechanization costs and costs for the preparation of technical documentation.

With regard to the connection to the transmission system, the construction of facilities necessary for the connection of users is based on the fact that the applicant is obliged to pay a fee for the connection power. The amount of the fee is determined by the competent system operator in accordance with the methodology approved by the Energy Regulatory Agency.

The connection of the facility to the transmission or distribution system of electricity is done on the basis of contracts for the construction of connection infrastructure concluded by the applicant for connection and the competent system operator. In accordance with Article 176 of the Energy Law, the system operator is obliged to submit to the applicant a contract for the construction of connection infrastructure. In case the applicant builds the infrastructure at his own expense, the system operator is obliged to provide an assessment in accordance with Article 184 of the Energy Law. Article 185 of the Law stipulates that the system operator purchases infrastructure if it is used for transmission, i.e. distribution of electricity and if, in addition to the owner, it is used by other legal or natural persons, i.e. new users based on the contract referred to in Article 175 of this Law. the functioning of the System was disrupted.

**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 Decree on the Tariff System for Determining the Incentive Price of Electricity from Renewable Energy Sources and High-Efficiency Cogeneration ("Official Gazette of Montenegro", No. 52/11, 28/14 and 79/15) was in force until the end of January 2019, the mentioned Decree ceased to be valid with the adoption of the Decree on the manner of realization and amount of incentive prices for electricity produced from renewable sources and highly efficient cogeneration, adopted by the Government of Montenegro in December 2018, and amended in July 2019 (" Official Gazette of Montenegro ", No. 3/19 and 40/19).

As a program to support electricity produced from renewable energy sources, Montenegro has chosen a system of guaranteed purchase of electricity at an incentive price from eligible producers, in accordance with the Law on Energy and adopted bylaws. Operators of plants that produce electricity from renewable energy sources can obtain the status of "privileged producer", and accordingly acquire the right to incentive prices for produced electricity under legal conditions (Decree on the manner of acquiring the status and exercising the right of privileged producer of electricity). No. 59/16 and 89/20), Article 3 of the Regulation on the Tariff System for Determining the Incentive Price of Electricity from Renewable Energy Sources and High-Efficiency Cogeneration, starting from 23 January 2019 in accordance with Article 3 and 4 Regulations on the manner of realization and amount of incentive prices for electricity produced from renewable sources and highly efficient cogeneration. In addition to guaranteed prices, eligible producers have priority in the delivery of total electricity to the transmission or distribution system, and are exempt from paying balancing services. Electricity market operator, which enters into contracts with a privileged producers, it is legally obliged to buy electricity from them, for a period of 12 years (Article 105 paragraph 3 of the Energy Law) after concluding a formal contract. The exact amount is determined by the Regulation on the tariff system, i.e. the Regulation on the manner of realization and the amount of incentive prices, and it mostly depends on the type of RES technology. The first such contract was concluded with the company "Hidroenergija Montenegro" d.o.o. Berane, 1 May 2014 for a small hydroelectric power plant "Jezerstica".

The status of a privileged producer is determined by a decision of the Energy Regulatory Agency, after which the energy producer concludes a contract with the market operator on the purchase of electricity from renewable energy sources at an incentive price. The contract also specifies details such as projected annual production, the amount of the incentive price and responsibilities in balancing the system.

The market operator pays the incentive price for the produced electricity to the privileged producer on a monthly basis on the basis of the concluded contract on the purchase of electricity. The eligible producer is obliged to submit guarantees of origin to the market operator before payment for the entire produced electricity for which he has obtained the incentive. The transmission or distribution system operator is obliged to submit to the market operator data on the produced electricity in the plant for which the energy entity has acquired the right to an incentive price).

***Table 3*: Support schemes for renewable energy for 2019 and 2018 through feed-in tariffs**

| **RES support schemes year, 2019** | | | **Per unit support (ct€/kWh)** | **Total (M€)*** |
|---|---|---|---|---|
| **Small hydropower plants up to 10 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 3,8 | 2,838 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Wind farms** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 4,72 | 9,143 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solar power plants on roof structures up to 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 8,084 | 0,048 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solid biomass power plants from forestry and agriculture up to and including 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 9,749 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solid biomass power plants from the wood processing industry** | | | | |
| Incentive price determined by a regulation of the Government | | | | |
| | | Guaranteed tariffs | 8,394 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Landfill gas power plants and gas from wastewater treatment plants up to and including 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 4,084 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Biogas power plants up to and including 1 MW** | | | | |
| | Production incentives | | | |

| | | | | |
|---|---|---|---|---|
| Incentive price determined by a regulation of the Government | | Guaranteed tariffs | 11.084 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| Total annual incentive in the electricity sector | | | - | 12,03 |
| Total annual incentive in the heat sector | | | - | - |
| Total annual incentive in the transport sector | | | - | - |

***Total incentive paid to eligible producers

| **RES support schemes year, 2018** | | | **Per unit support (ct€/kWh)** | **Total (M€)*** |
|---|---|---|---|---|
| **Small hydropower plants up to 10 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 4.9 | 4.069 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Wind farms** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 5.69 | 9.201 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solar power plants on roof structures up to 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 8.084 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solid biomass power plants from forestry and agriculture up to and including 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 9.749 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Solid biomass power plants from the wood processing industry** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 8.394 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Landfill gas power plants and gas from wastewater treatment plants up to and including 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |

| | | | | |
|---|---|---|---|---|
| | | Guaranteed tariffs | 4.084 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| **Biogas power plants up to and including 1 MW** | | | | |
| Incentive price determined by a regulation of the Government | Production incentives | | | |
| | | Guaranteed tariffs | 11.084 | 0 |
| | | Guaranteed premiums | | |
| | | Offers | | |
| Total annual incentive in the electricity sector | | | - | 13.27 |
| Total annual incentive in the heat sector | | | - | - |
| Total annual incentive in the transport sector | | | - | - |

***Total incentive paid to eligible producers

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

The Energy Law stipulates that encouraging the use of renewable energy sources and highly efficient cogeneration is based on incentive measures. Renewable energy production is encouraged for certain producers ("privileged producers"), according to Article 23 of the Energy Law.

Every producer who receives the status of a privileged producer has a guaranteed purchase of produced energy at a fixed price for the entire period of that status (12 years, Article 105). The status of a privileged producer may be acquired in accordance with Article 104 of the Energy Act and in accordance with the Regulation on the manner of acquiring the status and exercising the rights of a privileged producer of electricity. All eligible producers have the right to the purchase price for energy according to the Regulation on the tariff system, i.e. the Regulation on the manner of realization and amount of incentive prices for electricity, priority in delivery of produced energy to the transmission or distribution system, as well as exemption from balancing costs.

Tariffs and / or incentive prices depend on the type of facilities, their capacities, annual production and other factors. The tariff system determines incentive prices for electricity produced from plants using renewable energy sources and cogeneration plants on the basis of justified construction or reconstruction costs, labor and maintenance costs and return on investment. The support program is financed from the fee charged for each kWh of electricity purchased by end customers, as well as on the basis of funds allocated from the state budget. The transfer of funds from consumers to eligible producers is done on a monthly basis through market operators. The market operator enters into a contract with eligible producers for the purchase of electricity at an incentive price. Also, the market operator concludes agreements with electricity suppliers and self-supply customers on taking over the obligatory share of electricity produced in the facilities of eligible producers in the proportion of the electricity they supply to their customers in the total amount of electricity delivered to end customers in Montenegro. Transmission and distribution system operators are obliged to submit data on the delivered electricity from the eligible producer and the energy taken over by each electricity supplier. The method of collecting funds for incentives and their distribution is regulated by the Decree on the fee for incentives for the production of electricity from renewable sources and highly efficient cogeneration ("Official Gazette of Montenegro", No. 29/19). This decree stipulates that electricity buyers and household customers are exempted from paying the fee for stimulating the production of eligible producers for the first 300 kWh of electricity consumed

on a monthly basis, while the missing incentive funds will be provided from the Budget of Montenegro.

**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))*.**

There are currently no such measures.

**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 system of guarantees of origin is regulated by the Law on Energy and the Decree on the manner of issuing, transmitting and withdrawing guarantees of origin of electricity produced from renewable energy sources and highly efficient cogeneration. By adopting amendments to the Energy Law ("Official Gazette of Montenegro", No. 82/2020)., the obligation to issue a guarantee of origin was transferred from the Energy Regulatory Agency to the market operator, which is why a new Regulation on the manner of issuing, transferring and withdrawing guarantees of origin of electricity produced from renewable energy sources and highly efficient cogeneration ("Official Gazette of Montenegro", No. 110/2020).

The guarantee of origin may not be issued to an energy entity that produces thermal energy for district heating and / or cooling in a plant with an installed capacity of less than 1 MW. The guarantee of origin is issued by the energy market operator at the request of the electricity producer, for energy produced in an energy facility using renewable energy sources or highly efficient cogeneration, after reviewing the technical documentation and direct insight into the operation of the facility.

The transmission or distribution system operator to which the facility for which the guarantee of origin is issued is connected, is obliged to submit to the market operator data on the amount of electricity produced, measured at the place of delivery to the transmission or distribution system.

The guarantee of origin is issued only once for 1 MWh of electricity produced. The period of production of electricity for which a guarantee of origin is issued may not exceed 12 months. The guarantee of origin may be transmitted independently of the electricity produced to which it relates, provided that, in order to ensure that that energy is presented to the customer only once, multiple counting and display of electricity produced from renewable sources is not permitted.

The guarantee of origin of electricity produced from renewable energy sources shall contain in particular:

1) data on the energy source from which the energy was produced and the dates of the beginning and end of the production period for which the guarantee of origin is issued;
2) name, location, type and installed power of the energy facility in which energy is produced;
3) the scope of investment support for the energy facility, the scope of incentives for energy produced from that facility and data on the manner of incentives;
4) date of commissioning of the energy facility;
5) date of issue and period of validity, as well as the unique identification number of the guarantee of origin and the name of the country in which it was issued.

The guarantee of origin of electricity produced from highly efficient cogeneration shall contain in particular:

1) name, location, type and installed power of the energy facility in which energy is produced;

2) the scope of investment support for the energy facility, the scope of incentives for the energy produced from that facility and data on the manner of incentives;
3) date of commissioning of the energy facility;
4) date of issue and period of validity, as well as the unique identification number of the guarantee of origin and the name of the country in which it was issued;
5) the lower thermal power of the fuel used for the production of electricity for which a guarantee of origin is issued;
6) the purpose for which the thermal energy produced in the high-efficiency cogeneration facility in which the electricity for which the guarantee of origin is issued is used is used;
7) saving of primary energy in the process of electricity production for which a guarantee of origin is issued;
8) data on the amount of produced electricity that is produced in accordance with the criteria and rules of high efficiency;
9) the amount of thermal energy produced together with electricity.

The Decree on the manner of issuing, transferring and withdrawing guarantees of origin of energy produced from renewable energy sources and highly efficient cogeneration regulates the manner of issuing, transferring and withdrawing guarantees of origin, content and manner of submitting data on delivered electricity by transmission or distribution system operators. the content of the guarantee of origin of electricity produced from renewable energy sources or from highly efficient cogeneration, the content of the application for the issuance of a guarantee of origin, as well as the documentation submitted with the application.

The guarantee of origin is issued in electronic form at the request of the manufacturer. According to the Energy Act, the market operator is responsible for the Regulation on the manner of issuing, transferring and withdrawing guarantees of origin of energy produced from renewable energy sources and highly efficient cogeneration. All activities related to guarantees of origin issued to electricity producers and highly efficient cogeneration are clearly defined by law to prevent abuse, such as double issuance, etc.

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

Table 4 shows the available data.

***Table 4*: Biomass supply for energy use**

| | **Amount of domestic raw material (*)** | | **Primary energy in domestic raw material (ktoe)** | | **Amount of imported raw material from EU (*)** | | **Primary energy in amount of imported raw material from EU (ktoe)** | | **Amount of imported raw material from non EU(*)** | | **Primary energy in amount of imported raw material from non EU (ktoe)** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2019** | **2018** | **2019** | **2018** | **2019** | **2018** | **2019** | **2018** | **2019** | **2018** | **2019** | **2018** |
| ***Biomass supply for heating and electricity:*** | | | | | | | | | | | | |
| Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)** | 592877 $m^3$ | 613091 $m^3$ | 136.57 | 140.61 | 2266 t | 1698 t | 0.974 | 0.73 | | | | |
| Indirect supply of wood biomass | 38905 $m^3$ | 40822 $m^3$ | 8.94 | 9.35 | 63 $m^3$ | 55 $m^3$ | 0.01 | 0.01 | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (residues and co-products from wood industry etc.)** | | | | | | | | | | | | |
| Energy crops (grasses, etc.) and short rotation trees *(*please specify*)* | | | | | | | | | | | | |
| Agricultural by-products / processed residues and fishery by-products ** | | | | | | | | | | | | |
| Biomass from waste (municipal, industrial etc.) ** | | | | | | | | | | | | |
| Others (please specify) | | | | | | | | | | | | |
| ***Biomass supply for transport:*** | | | | | | | | | | | | |
| Common arable crops for biofuels *(*please specify main types*)* | | | | | | | | | | | | |
| Energy crops (grasses,etc.) and short rotation trees for biofuels *(*please specify main types) | | | | | | | | | | | | |
| Others (please specify) | | | | | | | | | | | | |

* Amount of raw material if possible in **m3 for biomass from forestry** and in **tonnes for biomass from agriculture and fishery and biomass from waste**

** The definition of this biomass category should be understood in line with table 7 of part 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)

| Land use | Surface (*ha*) | |
|---|---|---|
| | **2019** | **2018** |
| 1. Land used for common arable crops (wheat, sugar beet etc.) and oil seeds (rapeseed, sunflower etc.) *(*Please specify main types) | - | - |
| 2. Land used for short rotation trees (willows, poplars). (Please specify main types) | - | - |
| 3. Land used for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus), sorghum. (Please specify main types) | - | - |

There is no data about the plants growing for energy production.

**7. Please provide information on any changes in commodity prices and land use within your Contracting Party 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))*.**

There is almost no influence on prices because of bigger use of biomass or other types of RES.

**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))*.**

***Table 5*: Production and consumption of Art.21(2) biofuels (Ktoe)**

| Article 21(2) biofuels[27] | 2019 | 2018 |
|---|---|---|
| Production – Fuel type X (Please specify) | - | - |
| Consumption – Fuel type X (Please specify) | - | - |
| Total production Art.21.2.biofuels | - | - |
| Total consumption Art.21.2. biofuels | - | - |
| % share of 21.2. fuels from total RES-T | - | - |

There was no using biofuels made from waste, residues, non-food cellulosic material and lingo cellulosic material in 2018 and 2019.

**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).***

There is no plan for production of biofuels

**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))*.**

The contribution to the reduction of greenhouse gas emissions is determined according to the projections of electricity production from renewable energy sources, the use of renewable energy sources in transport and the use of renewable energy sources for heating and cooling by 2020.

In order to determine the contribution of renewable energy sources in reducing greenhouse gas emissions, an assessment of the so-called. avoided CO2 emissions due to the use of renewable energy sources instead of fossil fuels. Avoided emissions are determined by replacing the amounts of electricity produced from renewable energy sources, and renewable energy for heating and cooling and transport, as stated in the National Action Plan, with fossil fuels and their CO2 emissions.

In the production of electricity from renewable energy sources, a comparison was made with fossil fuel power plants, and the emission estimate took into account CO2 emissions from TPP Pljevlja 1. Reduced CO2 emissions from the heating and cooling sector assume the use of fuel oil instead of renewable energy sources.

***Table 6*: Estimated GHG emission savings from the use of renewable energy (t CO2eq)**

[27] Biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material.

| Environmental aspects | 2019 | 2018 |
|---|---|---|
| ***Total estimated net GHG emission saving from using renewable energy[28]*** | 1199717 | 1206209 |
| - Estimated net GHG saving from the use of renewable electricity | 425459 | 409720 |
| - Estimated net GHG saving from the use of renewable energy in heating and cooling | 774259 | 796489 |
| - Estimated net GHG saving from the use of renewable energy in transport | - | - |

**11. Please report on (for the preceding 2 years) 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 Contracting Parties, Member States and/or third countries, as well as estimated potential for joint projects until 2020. (*Article 22 (1) l, m) of Directive 2009/28/EC))*.**

***Table 7:*** **Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Contracting Parties, Member States and/or third countries in Montenegro (ktoe)[29],[30]**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| Actual/estimated excess or deficit production (Please distinguish per type of renewable energy and per origin/destination of import/export) | | | | | | | | | |

There is no planned transfer to/from other Contracting Parties, Member States and/or third countries.

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

There is no planned use of statistical transfers or participation in joint projects and joint support scheme decision rules.

**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)*.**

Biodegradable fraction of municipal solid waste including biowaste and landfill gas - the estimation of the theoretical potential of municipal solid waste (MSW) in the CRES report is 710 TJ for whole Montenegro.

Biodegradable fraction of industrial waste - the usage of sewage methane for energy purposes should also be considered, at least for the bigger cities where the sewage water is treated in a wastewater treatment plant.

[28] The contribution of gas, electricity and hydrogen from renewable energy sources should be reported depending on the final use (electricity, heating and cooling or transport) and only be counted once towards the total estimated net GHG savings.
[29] Please use actual figures to report on the excess production in the two years preceding submission of the report, and estimates for the following years up 2020. In each report Contracting Party may correct the data of the previous reports.
[30] When filling in the table, for deficit production please mark the shortage of production using negative numbers (e.g. –x ktoe).