

**Montenegro Progress Reports under  
Renewable Energy Directive 2009/28/EC as adapted by the  
Ministerial Council Decision 2012/04/MC-EnC**

## 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.

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 sixth report, to be submitted by 31 December 2021, is the last report required.

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<sup>1</sup>.

The template has been filled out in accordance with the definitions, calculation rules and terminology laid down in Directive 2009/28/EC and Regulation (EC) No 1099/2008 of the European Parliament and of the Council.

**1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years (2015 and 2014) (Article 22 (1) a) of Directive 2009/28/EC).**

**Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources<sup>1</sup>**

	2015	2014
RES-H&C <sup>2</sup> (%)	37.02	37.35
RES-E <sup>3</sup> (%)	46.32	45.17
RES-T <sup>4</sup> (%)	-	-
Overall RES share <sup>5</sup> (%)	31.7	31.9
Of which from cooperation mechanism <sup>6</sup> (%)	-	-
Surplus for cooperation mechanism <sup>7</sup> (%)	-	-

**Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)<sup>8</sup>**

	2015	2014
(A) Gross final consumption of RES for heating and cooling	99.1	88.1
(B) Gross final consumption of electricity from RES	125.7	147.7
(C) Gross final consumption of energy from RES in transport	-	-
(D) Gross total RES consumption <sup>9</sup>	224.8	235.8
(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)	224.8	235.8

<sup>1</sup> Facilitates comparison with Table 3 and Table 4a of the NREAPs.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.

<sup>6</sup> In percentage point of overall RES share.

<sup>7</sup> In percentage point of overall RES share.

<sup>8</sup> Facilitates comparison with Table 4a of the NREAPs

<sup>9</sup> 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 1b: 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<sup>10</sup>**

	2015		2014	
	MW	GWh	MW	GWh
Hydro <sup>11</sup> :	669.2	1459.9	658.5	1716.1
non pumped				
<1MW	5.7	9.85	2.0	3.0
1MW–10 MW	14.5	35.7	7.5	26.1
>10MW	649.0	1414.4	649.0	1687.0
pumped				
mixed <sup>12</sup>				
Geothermal				
Solar:				
photovoltaic	0.9	2.1	0.9	1.9
concentrated solar power				
Tide, wave, ocean				
Wind:				
onshore				
offshore				
Biomass <sup>13</sup> :				
solid biomass				
biogas				
bioliquids				
<b>TOTAL</b>	669.2	1462.0	658.5	1718.0
of which in CHP				

**Table 1c: Total actual contribution (final energy consumption<sup>14</sup>) 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)<sup>15</sup>**

	2015	2014
Geothermal (excluding low temperature geothermal heat in heat pump applications)	-	-
Solar	0.2	1.1
Biomass <sup>16</sup> :	99.1	88.4
solid biomass	99.1	88.4
biogas	-	-
bioliquids	-	-
Renewable energy from heat pumps:	6.2	4.9
- of which aerothermal	4.1	3.7
- of which geothermal	2.1	2.2
- of which hydrothermal	0	0
<b>TOTAL</b>	111.7	94.5
Of which DH <sup>17</sup>	-	-
Of which biomass in households <sup>18</sup>	88.1	75.1

<sup>10</sup> Facilitates comparison with Table 10a of the NREAPs.

<sup>11</sup> Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

<sup>12</sup> In accordance with new Eurostat methodology.

<sup>13</sup> Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

<sup>14</sup> Direct use and district heat as defined in Article 5.4 of Directive 2009/28/EC.

<sup>15</sup> Facilitates comparison with Table 11 of the NREAPs.

<sup>16</sup> Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) last subparagraph of Directive 2009/28/EC.

<sup>17</sup> District heating and / or cooling from total renewable heating and cooling consumption (RES- DH).

<sup>18</sup> 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 in the transport sector (ktoe)<sup>19, 20</sup>**

	2015	2014
Bioethanol/ bio-ETBE	-	-
<i>Of which Biofuels<sup>21</sup> Article 21.2</i>	-	-
<i>Of which imported<sup>22</sup></i>	-	-
Biodiesel	-	-
<i>Of which Biofuels<sup>23</sup> Article 21.2</i>	-	-
<i>Of which imported<sup>24</sup></i>	-	-
Hydrogen from renewables	-	-
Renewable electricity	-	-
<i>Of which road transport</i>	-	-
<i>Of which non-road transport</i>	-	-
Others (as biogas, vegetable oils, etc.) – please specify	-	-
<i>Of which Biofuels<sup>25</sup> Article 21.2</i>	-	-
<b>TOTAL</b>	-	-

<sup>19</sup> For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.

<sup>20</sup> Facilitates comparison with Table 12 of the NREAPs.

<sup>21</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

<sup>22</sup> From the whole amount of bioethanol / bio-ETBE.

<sup>23</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

<sup>24</sup> From the whole amount of biodiesel.

<sup>25</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

**2. Measures taken in the preceding 2 years 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**

<b>Name and reference of the measure</b>	<b>Type of measure*</b>	<b>Expected result**</b>	<b>Targeted group and or activity***</b>	<b>Existing or planned</b>	<b>Start and end dates of the measure</b>
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	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: <b>GIZ Open Regional Fund for South East Europe - Energy Efficiency (ORF-EE)</b> - Establishment of integrated monitoring and verification platform of NEEAPs <b>Developing Sustainable Energy Use in Montenegro (DSEU)</b> - Development and enforcement of relevant regulatory framework in order to increase sustainable energy use			Ministry of Economy; Ministry of Finance; state authorities		

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
10. Establishment and implementation of EE criteria in public procurement of goods and services, as well as in purchase and rental of buildings	Regulatory	Energy and economic savings	Ministry of Economy, Ministry of Finance, authorities responsible for implementation of public procurement	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
<p>11. Programmes of support for using RES in households and other sectors:</p> <p><b>MONTESOL</b> - Interest-free credit line for installation of solar-thermal systems for households</p> <p><b>SOLARNI KATUNI</b> - Project related to installation of photovoltaic solar systems in summer pasture lands</p> <p><b>Montenegro Energy Efficiency Project (MEEP)</b> - Implementation of energy efficiency measures in six healthcare buildings and nine educational buildings</p> <p><b>Energy Efficiency Programme in Public Buildings (EPPB)</b> - Improvement of the energy efficiency, comfort and working conditions in the selected educational buildings (kindergartens, primary and secondary schools and student dormitories)</p> <p><b>ENERGY WOOD II</b> - Interest-free credit line for installation of heating systems on modern biomass fuels (pellets, briquettes) for households</p>	Financial	<p>Energy and economic savings;</p> <p>Increased use of RES in buildings;</p> <p>Creation of a market for utilization of solar/bio-mass energy;</p> <p>Contribution to overall reduction of GHG emissions;</p>	<p>Investors – households;</p> <p>Eligible dealers and installers;</p> <p>Banks</p>	Existing and planned	2011-

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
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-
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, small and medium-sized enterprises, 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					

**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 most important documents (Energy policy, Energy Development Strategy by 2030, Strategic environmental assessment and National Renewable Energy Action plan to 2020), and most recently, Action plan for implementation of Energy Development Strategy by 2030. The Action Plan (AP) is complementary with the Strategy since both documents share the same goal: concretisation of the vision of energy development and identifying ways in which this vision will be realized. These are most important documents for developing RES in Montenegro. In December 2015, Montenegro also adopted the new Energy Law, which transposes the principles of the Renewable Energy Directive.

The Ministry of Economy (Directorate for Energy) is responsible for monitoring the implementation of the National Renewable Energy Action Plan. Article 19 of the new Energy Law provides a detailed overview of the monitoring process, which includes a thorough and constant assessment of all procedures and data associated with energy production and distribution from renewable energy sources.

**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 the Article 107 of the Energy Law, privileged producers have priority in the delivery of the energy produced into the system, unless security of system operation is in danger. According to the Article 112, in the process of operating transmission system and dispatching, the operator of the transmission system is obliged to give preference to privileged producers, subject to the technical capabilities of system. Article 116 states the same about the distribution system operator. In the Article 175 of the Energy Law, it is stated that TSO/DSO must give permission for the connection of renewable energy plants, unless there are technical limitations in either transmission or distribution system.

Article 107 of the Energy Law states that privileged producers shall be entitled to the incentive price for electricity and priority in delivery of total electricity generated to the transmission or the distribution system. The only limitation to priority access would be due to security of system operation reasons. In this case operators of transmission and distribution system may not give priority to privileged producer, and they are obliged to inform the Energy Regulatory Agency and determine corrective measures for prevention of further denials of access to the system.

There are several options for distributing grid connection costs. Contracting Parties are likely to choose one or a combination of these. According to the “deep” connection cost charging the developer of the installation generating electricity from renewable energy sources bears several grid infrastructure related costs (grid connection, grid reinforcement, and extension). Another approach is the “shallow” connection cost charging, meaning that the developer bears only the grid connection cost, but not the costs of reinforcement and extension (this is built into the grid tariffs and paid by the customers). A further variant is when all connection costs are socialized and covered by the grid tariffs.)

The Energy Law stipulates that costs for connection to the transmission system or distribution system are paid by the system user.

According to the procedure for connection defined in the Distribution Grid Code, the investor bears the costs of issuing the requirements for connection, the decision on granting consent to the connection, the connection costs, the cost of construction of lines and devices to the point of connection, the cost of necessary interventions in the distribution network necessary for reliable operation and delivery of the electricity produced in the power plants, and the cost of resolving property and legal issues.

According to the Methodology for setting of prices and terms and conditions for connection to the distribution system, the connection of generation facilities to the distribution system is classified as a “non-standardized connection”. Calculation of costs for a “non-standardized connection” is done according to the economic elaborate that has to be prepared separately for each connection.

Costs for connection are determined depending on the type and scope of work that needs to be performed in order to connect the facility to the distribution system, according to the following criteria: approved installed capacity, the voltage level of the network to which the user is connected, the distance from the existing network, the number of phases, the number and types of measuring devices, type and line cross-section, the type of equipment, type of devices and materials that are installed in accordance with the technical regulations, the need for the provision of designs and other documents necessary for the construction of connection and related works. Costs for connection include costs for equipment, devices and materials, building costs, machinery costs and expenses for technical documentation.

Regarding connection to the transmission system, the construction of facilities necessary for connecting users is based on the use of standard equipment and standard solutions and is the responsibility of user. Charges for connection to the transmission system are intended to cover the following costs: costs for preparation of elaborate on the connection to the transmission system, the costs of revision of design documentation, the costs of supervision of TSO during facility construction and the costs of technical inspection by the TSO. Calculation of these costs individually is given in the Methodology for setting of prices and terms and conditions for connection to the transmission system.

According to Article 176 of the Energy Law, in cases when the connection of generating or more complex facilities requires system development studies or preparation of connection reports, the costs of the system development study shall be borne by the TSO/DSO, and the costs of the connection reports by a system user.

The connection charges shall be paid by the system user. Additionally, Article 181 of the Energy Law envisages the case when the system user may build the connection infrastructure at its own expense with transfer into the property of the TSO/DSO once the full compensation has been paid. In the Article 184 it is stated that if the user cannot be connected to the system because of technical reasons and the connection is not planned by the TSO/DSO, a consent has to be given to the system user for the connection. That connection can then be constructed at the system user’s expense and with the agreement that it will be transferred into the property of the TSO/DSO. According to the Article 185, the compensation shall be paid in maximum 20 equal annual instalments with an agreed interest which takes into account a rate of return on the investments.

**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).**

A Decree on the tariff system for determining the incentive prices for electricity produced from renewable energy sources and high efficiency cogeneration has been adopted in 2011. The Decree is amended in 2014 and 2015. As a support scheme for electricity produced from renewable energy sources, Montenegro has chosen a system of guaranteed purchase of electricity by "feed-in-tariffs". The operators of plants that generate electricity from renewable energy sources can obtain the status of a „Privileged Producer/Generator“ and thereupon acquire the right to a price support for the generated electricity under the legal requirements (Privileged Producer Decree and Art. 3 Tariff System Decree). The Energy Market Operator (COTEE), who is legally obliged to buy the electric energy from privileged producers, pays the incentive for a period of 12 years after having concluded a formal agreement (Art. 95 Nr. 7 Energy Law). The exact amount is determined in the Decree and mainly depends on the type of RES technology. The first such contract was concluded with Hydroenergija Montenegro d.o.o. Berane with effect from May 1<sup>st</sup> 2014.

Once the status of privileged generator is acquired through the decision adopted by the Energy Regulatory Agency, the energy producer concludes a contract with the Market Operator on the guaranteed purchase of electricity from RES at the incentive price. The contract also sets out details such as the estimated yearly production, the amount of the incentive price and the balance responsibility.

The TSO and DSO convey the data on the power transmission from privileged generators to the Market Operator in so that he can carry out the transfer of the funds from the final consumers to the privileged generators once a month. Prior to the payment the privileged producer needs to submit to the market operator guarantees of origin for the total electricity production, for which the incentive prices have been obtained (Art. 9 Tariff System Decree).

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

RES support schemes year, 2015		Per unit support (ct€/kWh)	Total (M€)*
<b>Hydro-electric power plants up to 3 GWh ***</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	10.44	0.57
	Feed-in premiums		
	Tendering		
<b>Hydro-electric power plants from 3 GWh to 15 GWh</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives	***	
	Feed-in tariff		0
	Feed-in premiums		
	Tendering		
<b>Hydro-electric power plants over 15 GWh</b>			
Instrument (provide	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price		

data as relevant)	(€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives	***	
	Feed-in tariff		0.39
	Feed-in premiums		
	Tendering		
<b>Biomass - Power plants using biomass from forestry and agriculture up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	13.71	0
	Feed-in premiums		
	Tendering		
<b>Biomass - Power plants using biomass from wood-processing industry</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	12.31	0
	Feed-in premiums		
	Tendering		
<b>Biogas - Power plants using soild waste up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	8.00	0
	Feed-in premiums		
	Tendering		
<b>Biogas - Power plants using biogas up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	15.00	0
	Feed-in premiums		
	Tendering		
<b>Solar energy</b>			
Instrument	Obligation/quota (%)		

(provide data as relevant)	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	15.00	0
	Feed-in premiums		
	Tendering		
<b>Wind energy</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	9.60	0
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		-	0.96
Total annual estimated support in the heating sector		-	-
Total annual estimated support in the transport sector		-	-

\* The amount of energy produced per unit incentive gives an indication of the efficiency of support for each type of technology

\*\* If a small hydro power plant built on the existing pipeline or dam, incentive prices was reduced to 80% of the values indicated above (Article 5, Paragraph 3 of the Decree on the tariff system).

\*\*\* The incentive prices for electricity produced in small hydro power plants are calculated according to tariff rates, in accordance with the formulas from the tariff system, which are expressed in € c / kWh, and are as follows:

TS1 for electricity produced 3.0 GWh 10.44

TS2 for electricity produced from 3.0 GWh to 15.0 GWh 7.44

TS3 for electricity produced over the 15.0 GWh 5.04

RES support schemes year, 2014		Per unit support (ct€/kWh)	Total (M€)*
<b>Hydro-electric power plants up to 3 GWh ***</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	10.44	0.31
	Feed-in premiums		
	Tendering		
<b>Hydro-electric power plants from 3 GWh to 15 GWh</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		

	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives	***	
	Feed-in tariff		0
	Feed-in premiums		
	Tendering		
<b>Hydro-electric power plants over 15 GWh</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives	***	
	Feed-in tariff		0
	Feed-in premiums		
	Tendering		
<b>Biomass - Power plants using biomass from forestry and agriculture up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	13.71	0
	Feed-in premiums		
	Tendering		
<b>Biomass - Power plants using biomass from wood-processing industry</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	12.31	0
	Feed-in premiums		
	Tendering		
<b>Biogas - Power plants using soild waste up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	8.00	0
	Feed-in premiums		
	Tendering		
<b>Biogas - Power plants using biogas up to 1 MW</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		

	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	15.00	0
	Feed-in premiums		
	Tendering		
<b>Solar energy</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	15.00	0
	Feed-in premiums		
	Tendering		
<b>Wind energy</b>			
Instrument (provide data as relevant)	Obligation/quota (%)		
	Penalty/Buy out option/ Buy out price (€/unit)		
	Average certificate price		
	Tax exemption/refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	9.60	0
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		-	0.31
Total annual estimated support in the heating sector		-	-
Total annual estimated support in the transport sector		-	-

\* The amount of energy produced per unit incentive gives an indication of the efficiency of support for each type of technology

\*\* If a small hydro power plant built on the existing pipeline or dam, incentive prices was reduced to 80% of the values indicated above (Article 5, Paragraph 3 of the Decree on the tariff system).

\*\*\* The incentive prices for electricity produced in small hydro power plants are calculated according to tariff rates, in accordance with the formulas from the tariff system, which are expressed in € c / kWh, and are as follows:

TS1 for electricity produced 3.0 GWh 10.44

TS2 for electricity produced from 3.0 GWh to 15.0 GWh 7.44

TS3 for electricity produced over the 15.0 GWh 5.04

### **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 new Energy Law grants support for the use of renewable energy sources and high-efficiency cogeneration based on incentives. Renewable energy generation in Montenegro is supported for certain producers ("privileged producers"), according to the Article 23 of the Law on Energy.

Every producer, who acquires the status of a privileged producer, is guaranteed purchase of the all energy produced at a fixed price during the entire period of acquired status (12 years, Article 105).

A status of privileged producer can be obtained in accordance with the Article 104 of the Energy Law and the Decree on acquiring the status and accomplishing entitlements of the privileged producer of electricity. All privileged producers are entitled to a purchase price for electricity according to the Decree on tariff system for determining incentive prices for electricity produced from renewable energy sources and high efficient cogeneration, priority in delivery of total electricity generated into the transmission or distribution system, as well as the exemption from balancing costs.

Tariffs depend on the type of facilities, their capacities, annual generation and other factors. The tariff system determines the incentive rates for electricity produced from renewable energy plants and cogeneration on the basis of the eligible costs of construction or reconstruction, operation and maintenance cost and return of invested funds. The support scheme is funded by a fee that is charged for each kWh purchased by the final consumers. The transfer of funds from consumers to privileged producers is done on a monthly basis via the market operator. The market operator enters into a contract with the privileged producers for the purchase of *feed-in* tariff electricity. Also, the market operator enters into contracts with electricity suppliers and qualified buyers (self-suppliers) on the take-over of a proportionate share of electricity produced in plants of privileged producers. Transmission and distribution system operators are then obliged to gather data on the delivered electricity by each privileged producer and taken-over by each electricity supplier. The market operator ensures remuneration by charging each electricity supplier for the amount of electricity accepted from privileged producers in line with the *feed-in* tariff levels. The Ministry of Economy annually determines the fee for encouraging electricity generation from renewable energy sources and cogeneration according to the Decree on the tariff system for determining the incentive fees for promoting electricity production from renewable energy sources and cogeneration.

**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)).**

At the moment, no such measures are in place. They are under consideration and attempts will be made to create a system for their implementation by the end of 2016.

**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 guarantee of origin is regulated by the Energy Law, Decree on manner of issuance, transfer and cancellation of guarantees of origin for energy produced from renewable energy sources and high efficiency cogeneration and the Rulebook on Content and Manner of Keeping the Register of Guarantees of Origin.

Guarantee of origin is not issued to an energy entity producing the heat for remote heating and/or cooling in plants with installed capacity lower than 1 MW.

Guarantee of origin is issued at producer's request, after examination of technical documentation and direct visit to the plant's operation.

Guarantee of origin is issued by the Energy Regulatory Agency.

Transmission System Operator (TSO) or Distribution System Operator (DSO) to which the plant, for which the guarantee of origin is issued, is connected, shall submit to the Agency data on quantities of produced electricity, measured in the point of delivery to transmission or distribution system.

Guarantee of origin is issued per MWh of produced energy. Guarantee of origin is valid 12 months from the day of its issue. Guarantees of origin are transferable. If an electricity supplier transfers the guarantee of origin to a third party, the quantity of electricity for which guarantee of origin is transferred, shall be deducted from the total quantity of electricity from renewable energy sources recognized to the supplier for the fulfillment of compulsory minimum share.

Guarantee of origin of energy produced from renewable energy sources specifically contains:

- 1) data on energy source from which electricity or heat for heating and/or cooling was produced, including dates of beginning and end of production period for which the guarantee of origin is issued;
- 2) name, location, type and installed power of the plant in which the energy is produced;
- 3) scope of investment support for the plant, scope of incentives for energy produced in the plant and data on incentive type;
- 4) date when the plant was put in operation;
- 5) date of issue of guarantee of origin, validity period of guarantee of origin, its unique identification number and the country where it was issued.

Guarantee of origin for electricity produced from co-generation specifically includes:

- 1) name, location, type and installed power of the plant in which the energy is produced;
- 2) scope of investment support for the plant, scope of incentives for energy produced in the plant and data on incentive type;
- 3) date when the plant was put in operation;
- 4) date of issue of guarantee of origin, validity period of guarantee of origin, its unique identification number and the country where it was issued;
- 5) lower calorific value of fuel used for production of electricity for which guarantee of origin is issued;
- 6) purpose of use of the heat, produced in co-generation plant where electricity for which guarantee of origin is issued, is produced;
- 7) savings in primary energy in the process of production of electricity for which the guarantee of origin is issued;
- 8) data on quantity of electricity produced in accordance with criteria and rules for high efficiency.
- 9) the amount of heat produced with electricity.

Decree on manner of issuance, transfer and cancellation of guarantees of origin for energy produced from renewable energy sources and high efficiency cogeneration (Official Gazette of Montenegro no 37/11) defines the methodology of issuance, transfer and cancellation of guarantees of origin, the data needed for a request for issuance of guarantee of origin, closer defines the content of guarantee of origin and the method of submission of data on quantity of delivered electricity through transmission or distribution system.

The Register of Issued Guarantees of Origin shall be kept by the Energy Regulatory Agency.

The content and the procedure for keeping the register of issued guarantees of origin shall be established by the Energy Regulatory Agency.

The Register also contains the data on submitted foreign guarantees of origin.

Foreign guarantees of origin containing elements established by the present Energy Law in Montenegro shall be valid under the condition of reciprocity and in accordance with a ratified international agreement.

Guarantee of origin is issued exclusively in electronic form to producers at their request. Energy Law defines that Energy Regulatory Agency is responsible for Decree on manner of issuance, transfer and cancellation of guarantees of origin. In 2014, Energy Regulatory Agency became observer in Association of Issuing Bodies (AIB) and so has taken all the steps that allow transfers of guarantees of origin from the countries of European Union and the Energy Community. All actions with guarantees of origin issued to producers of electricity and high-efficiency cogeneration, especially eligible producers, are clearly defined in the by-laws so as to prevent abuse, such as a double issue and to respect the principle that producers should not also have some of the incentives and earning of guarantees of origin. Montenegrin electricity market operator (COTEE) in this regard, has an important role to distribute all guarantees of origin transferred by privileged producers, on suppliers of end customers for the purpose of disclosure of origin of the supplied electricity. Register of guarantees of origin is regulated by bylaws published on the website of Energy Regulatory Agency.

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

Table 4 presents 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)	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
<b>Biomass supply for heating and electricity:</b>												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	718,222.0 m <sup>3</sup>	710,441.0 m <sup>3</sup>	99.1	88.1	2,296.0 t	4,447.0 t	1	0.5				
Indirect supply of wood biomass (residues and co-products from wood industry etc.)**	48,158.0 m <sup>3</sup>	37,094.0 m <sup>3</sup>	5.1	4.6	23.0 m <sup>3</sup>	81.0 m <sup>3</sup>	0.002	0.01				
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.) **					5	12						
Others (please specify)												
<b>Biomass supply for transport:</b>												
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 m<sup>3</sup> 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)	
	2015	2014
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 was no growing plants 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 <sup>26</sup>	2015	2014
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.

**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).**

<sup>26</sup> Biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material.

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

In order to determine the contribution of renewable energy sources in the reduction of emissions of greenhouse gases, an assessment has been made, so-called avoided CO<sub>2</sub> emissions due to the use of renewable energy instead of fossil fuels. The avoided emissions is determined in a manner that the amount of electricity from renewable energy sources, the amount of renewable energy for heating and cooling and renewable energy in the transport, set forth in the National Action Plan, is replaced by fossil fuels and their respective CO<sub>2</sub> emissions.

Considering the individual sectors, in the production of electricity from renewable energy sources, a comparison has been made with fossil fuel power plants. CO<sub>2</sub> emissions from the TPP Pljevlja 1 are estimated in the calculation. Reduced CO<sub>2</sub> emissions from the heating and cooling sector assumes the use of fuel oil instead of renewable energy.

**Table 6: Estimated GHG emission savings from the use of renewable energy (t CO<sub>2</sub>eq)**

Environmental aspects	2015	2014
<b>Total estimated net GHG emission saving from using renewable energy<sup>27</sup></b>	950,675.63	997,105.6
- Estimated net GHG saving from the use of renewable electricity	531,583.2	624,664.8
- Estimated net GHG saving from the use of renewable energy in heating and cooling	419,092.4	372,440.8
- 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) I, 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)<sup>28, 29</sup>**

	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.

<sup>27</sup> 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.

<sup>28</sup> 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 to 2020. In each report Contracting Party may correct the data of the previous reports.

<sup>29</sup> When filling in the table, for deficit production please mark the shortage of production using negative numbers (e.g. -x ktoe).

**11.1. Please provide details of statistical transfers, joint projects and joint support scheme decision rules. If a Contracting Party decided to implement Article 8 and/or 9 of the Ministerial Council Decision it should report on the measures taken to arrange for an independent external audit, in accordance with Article 13 of Ministerial Council Decision.**

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, mi (*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. The technical potential for MSW is 58.5 GWh. At the moment there are no available data about the potential of the use of gas from landfills.

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. The technical potential is estimated at around 27 GWh/year.