

**Ministry of the Economy of the Slovak Republic**

**Report on Progress in the Promotion and Use of Energy from  
Renewable Sources**  
(in accordance with Article 22 of Directive 2009/28/EC)

**Slovak Republic**

**Bratislava, 2013**

**1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years (n-1; n-2 e.g. 2010 and 2009). (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>**

	2011	2012
RES-H&C <sup>2</sup> (%)	10.7	10.5
RES-E <sup>3</sup> (%)	19.9	20.5
RES-T <sup>4</sup> (%)	5.6	4.5
Overall RES share <sup>5</sup> (%)	<b>11.9</b>	<b>11.7</b>
<i>Of which from cooperation mechanism<sup>6</sup> (%)</i>	0	0
<i>Surplus for cooperation mechanism<sup>7</sup> (%)</i>	0	0

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

	2011	2012
<i>(A) Gross final consumption of RES for heating and cooling</i>	564	532
<i>(B) Gross final consumption of electricity from RES</i>	497	507
<i>(C) Gross final consumption of energy from RES in transport</i>	122	96
<i>(D) Gross total RES consumption<sup>9</sup></i>	<b>1 183</b>	<b>1 135</b>
<i>(E) Transfer of RES to other Member States</i>	0	0
<i>(F) Transfer of RES from other Member States and 3rd countries</i>	0	0
<i>(G) RES consumption adjusted for target (D)-(E)+(F)</i>	<b>1 183</b>	<b>1 135</b>

<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 points of overall RES share.

<sup>7</sup> In percentage points 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 1.b: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in [Member State] to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity<sup>10</sup>**

	2011		2012	
	MW	GWh	MW	GWh
Hydro <sup>11</sup> :				
non pumped	1 607	4 562	1 607	4 522
<1MW	32	91	32	90
1MW–10MW	67	190	67	189
>10MW	1 508	4 281	1 508	4 243
pumped	916	368	916	336
mixed <sup>12</sup>				
Geothermal	0	0	0	0
Solar:				
<i>photovoltaics</i>	496	397	513	424
<i>concentrated solar power</i>	0	0	0	0
Tide, wave, ocean	0		0	
Wind:				
<i>onshore</i>	3	6	3	6
<i>offshore</i>	0		0	
Biomass <sup>13</sup> :				
<i>solid biomass</i>	176	706	174	751
<i>biogas</i>	21	113	41	190
<i>bioliquids</i>	0	0	0	0
<b>TOTAL</b>	<b>3 219</b>	<b>5 784</b>	<b>3 251</b>	<b>5 893</b>
<i>of which in CHP</i>	197	819	215	941

**Table 1c: Total actual contribution (final energy consumption<sup>14</sup>) from each renewable energy technology in [Member State] 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>**

	2011	2012
Geothermal (excluding low temperature geothermal heat in heat pump applications)	6	6
Solar	5	5
Biomass <sup>16</sup> :	0	0
<i>solid biomass</i>	530	499
<i>biogas</i>	23	22
<i>bioliquids</i>	0	0
Renewable energy from heat pumps:		
- of which aérothermal	0	0
- of which geothermal	0	0
- of which hydrothermal	0	0
<b>TOTAL</b>	<b>564</b>	<b>532</b>
<i>Of which DH<sup>17</sup></i>	106	176
<i>Of which biomass in households<sup>18</sup></i>	44	37

<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).

**Table 1d: Total actual contribution from each renewable energy technology in [Member State] 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>**

	2011	2012
Bioethanol/bio-ETBE	14.6	14.5
<i>Of which biofuels<sup>21</sup> Article 21.2</i>	0	0
<i>Of which imported<sup>22</sup></i>	0	0
Biodiesel	97.7	71.5
<i>Of which biofuels<sup>23</sup> Article 21.2</i>	0	0
<i>Of which imported<sup>24</sup></i>	0	0
Hydrogen from renewables	0	0
Renewable electricity	9.2	9.9
<i>Of which road transport</i>	0	0
<i>Of which non-road transport</i>	9,2	9.9
Others (as biogas, vegetable oils, etc.) – please specify	0	0
<i>Of which biofuels<sup>25</sup> Article 21.2</i>	0	0
<b>TOTAL</b>	<b>121.5</b>	<b>95.5</b>

<sup>18</sup> From the total renewable heating and cooling consumption.

<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**

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. Mandatory blending of biofuels – introduction of sustainability criteria	Regulatory	Increased use of RES in transport	Producers of motor fuels	E	2011→
2. Simplified access for biomethane to the gas network	Legislative, regulatory	Production of biomethane	Use of agricultural biomass	E	2011 →
3. Guaranteed feed-in tariff for electricity from biomethane	Legislative, regulatory	Production of biomethane	Use of agricultural biomass	E	2011 →
4. Creation of a certification system for installers	Regulatory	Increase in quality of heat and electricity production facilities	Installers	E	2012 →
5. Support for cultivation of fast-growing woody plants	Legislative	Increase in biomass availability	Agricultural undertakings	E	2013 →
6. Support for use of RES in households	Financial	Installation of biomass boilers, solar panels, photovoltaics, and heat pumps	Households	P	2014 – 2020
7. Increase in production of woody raw material – promotion of energy crop planting	Legislative	Increase in woody biomass availability	Forestry undertakings	P	2014 →
8. Support for reconstruction of heat distribution infrastructure	Financial	Energy efficiency, promotion of district heating	Investors	P	2014 – 2020
9. Support for the use of RES in the business sector	Financial	Production of heat from RES	Investors	P	2014 – 2020
10. Support for the use of RES for heating and cooling in public buildings	Financial	Production of heat and cooling in public buildings	Public bodies	P	2014 – 2020
11. Support for RES in the construction sector	Legislative	Production of heat	Investors	P	2015 →
12. Use of RES in new and renovated buildings	Legislative	Production of heat	Planners	P	2015 →

\* → Open-ended measure

\* 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)**

The use of energy from renewable sources is leading to decentralised electricity generation in smaller plants. For smaller plants (up to 1 MW), administrative procedures are simplified. Certificates are not required to build this kind of facility.

As a result of amended legislation, since the beginning of 2014 the process of connecting small, up to 10 kW, plants has become significantly simpler for households that cover most of their energy consumption by the electricity so generated. For small generators, a simple notification procedure has been introduced, involving the generator's one-off information obligation without the need for further reporting. Such generators are entitled to the free connection to the distribution system in the same location as that of the existing supply point, free installation of the required 'specified meter' that computes electricity generated and supplied between phases in real time, and free installation of a disconnecting device that mechanically separates connection contacts in the case of voltage loss in the distribution system, provided the small plant can be operated without voltage in the distribution system.

## **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)**

Priority for the transmission and distribution of electricity from renewable electricity sources is guaranteed in legislation. Similarly, there is a legislative guarantee for renewable electricity buy-out at a specified price for a period of 15 years from the commissioning of the plant. This guarantee applies to up to 125 MW (or 200 MW if certain conditions are met) plants.

The question of developing and reinforcing the distribution system for renewable energy sources is the subject of assessment, and in particular the impact of intermittent RES-based generation on the grid is analysed. The development of the distribution system on the basis of five-year development plans helps to meet the long-term needs of its users. We can also say, as regards the connection of new generating plants to the distribution network, that despite the great increase in output from RES between 2010 and 2013, no significant problems in connecting generators to the network as a result of insufficient transmission capacity have been observed.

The target amounts of electricity generated from renewable energy sources planned in the National Renewable Energy Action Plan can be fed into the grid in the coming years in a way that avoids significant direct impacts on the development of the transmission system, while complying with the safety criteria. The transmission system operator's existing competences ensure that the operating safety of the transmission and distribution systems is maintained. A proposal has been made for the transmission system operator to be granted wider competences to allocate capacity for intermittently generating sources.

The allocation of costs incurred in erecting connections and in extending the system is laid down in legislation issued by the independent regulator (the Office for the Regulation of Network Industries). The rules are non-discriminatory and transparent, and are applied to every applicant in the same way. The rules also form part of the operating rules for the transmission system operator and distribution system operators.

The law lays down that electricity generators' plants shall be connected to the distribution system if the distribution system is technically capable of such a connection, if it is the closest to the site where the electricity generating plant is located, and if no other system offers better connection in technical and financial terms. A distribution system is also considered to be technically capable when electricity off-take is, without prejudice to the priority arrangement, possible only when the system is extended in an economically beneficial way; in such cases the distribution system operator is required to extend the system at the request of the electricity generator.

## **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)**

### **Support schemes**

#### **Feed-in tariffs**

The objective is to guarantee electricity generators the same feed-in tariff for 15 years. No limit is set on the overall amount of electricity produced. The right to this tariff applies to facilities whose total installed capacity is lower than 125 MW; for electricity produced in high-efficiency cogeneration where renewable energy sources account for more than 20 % of the energy in the fuel, this limit is 200 MW.

Tariffs for newly built facilities in the subsequent period are set by the independent regulator (the Office for the Regulation of Network Industries) on the basis of trends in technology prices. The feed-in tariff for electricity from RES is comprised of two elements. One element is the price of electricity for losses, which reflects the market price of electricity and is defined as the arithmetic average of prices of electricity for covering the losses of all regional distribution system operators. The other element is an additional payment representing the difference between the electricity price and the price of electricity for losses, which is paid to generators of electricity from RES or generators of electricity from high-efficiency cogeneration by the operator of the regional distribution system to which the electricity generator's plant is connected or in whose service area it is located.

#### Financial support:

#### EU Structural Funds: Competitiveness and Economic Growth Operational Programme and Environment Operational Programme

The operational programmes under the Structural Funds are the main financial support instrument in the energy sector. In addition to support for renewable sources, they also focus on increasing energy efficiency, reducing energy costs and reducing greenhouse gas emissions along with emissions of basic pollutants from the production of heat. Support is also given to changes of fuels for energy generating plants in favour of the use of renewable sources. The beneficiaries of aid are in the private sector. The assistance is provided as a non-repayable grant towards investment costs. Applications are received on the basis of calls for expressions of interest, and at the end of 2012 two calls for the State aid scheme were published under the *Competitiveness and Economic Growth Operational Programme* for the 2007-2013 programming period.

#### Programme for greater use of biomass and solar energy

This programme focuses on supporting households to install biomass boilers and solar panels. In the case of biomass boilers, facilities eligible for support must meet minimum efficiency requirements and environmental criteria. Solar panels must meet minimum energy-yield and production-quality criteria. The programme was launched in 2009 and is financed from the national budget. In 2012 and 2013, no funds were appropriated from the national budget, and the programme was therefore suspended for that period. A similar programme of subsidies for households, which would include support for biomass boilers, solar panels, photovoltaic panels and heat pumps, is under preparation for 2014 and 2020.

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

RES support schemes - year 2012		Per unit support	Total (M€)*	
[(sub) category of specific technology or fuel ]				
Instrument (provide data as relevant)	Obligation/quota (%)	3.9 % of biofuel energy content in motor fuels	n.a	
	Penalty (biofuels)	€ 2/l	n.a.	
	Average certificate price			
	Tax exemption/refund			
	Investment subsidies (capital grants or loans) (€/unit)	€ 0/MW	0	
	Investment subsidies for households	€ 0/MW	0	
	Production incentives			
	Feed-in tariff	Hydropower € 61.7-109.8/MWh Photovoltaics € 194.5/MWh Wind energy € 79.3/MWh Geothermal energy € 190.5/MWh Biomass € 112.2-144.9/MWh Biogas € 118.2-136.3/MWh	€ 270m	
	Feed-in premiums			
	Tendering			
Total annual estimated support in the electricity sector		Feed-in tariff € 93/MWh	€ 270m	
Total annual estimated support in the heating sector		0	0	
Total annual estimated support in the transport sector		0	0	

\* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology

RES support schemes - year 2011		Per unit support	Total (M€)*	
[(sub) category of specific technology or fuel ]				
Instrument (provide data as relevant)	Obligation/quota (%)	3.8% of biofuel energy content in motor fuels	n.a	
	Penalty (biofuels)	€ 2/l	n.a.	
	Average certificate price			
	Tax exemption/refund			
	Investment subsidies (capital grants or loans) (€/unit)	€ 900 000/MW	€ 20m	
	Investment subsidies for households	€ 400 000/MW	€ 3m	
	Production incentives			
	Feed-in tariff	Hydropower Photovoltaics Wind energy Geothermal energy Biomass Biogas	€ 61.7-109.1/MWh € 259.2-387.7/MWh € 79.3/MWh € 195.8/MWh € 112.2-128.0/MWh € 129.4-148.7/MWh	€ 192m
	Feed-in premiums			
	Tendering			
Total annual estimated support in the electricity sector		Capital grants € 2.2m/MW	€ 207m	
Total annual estimated support in the heating sector		Capital grants € 350 000/MW	€ 8m	
Total annual estimated support in the transport sector		0	0	

\* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology

## **Regulatory measures**

### **Mandatory blending of biofuels in motor fuels**

A requirement has been laid down in legislation for producers and suppliers of motor fuels, to market fuels with a biofuel content corresponding to a reference value calculated from the energy content of the total amount of fuels placed on the market. A sustainability criterion has been introduced for biofuels as of 2011.

There are also targets for minimum biofuel content by volume per litre of individual types of fuel (diesel and petrol). The biofuel reference values and the minimum biofuel content by volume for 2011 to 2020 have been laid down in a law.

### **Guaranteed mandatory buy-out for biomethane**

In 2011, the Parliament changed the proposal for mandatory biomethane buy-out into a guaranteed feed-in tariff for electricity produced from biomethane. The price of electricity produced from biomethane is 15% higher than the biogas buy-out price. This price is conditional on producing electricity from biomethane in high-efficiency cogeneration.

### **Simplified access for biomethane to the gas network**

The access for biomethane to the gas network was simplified in 2011. The law lays down time limits for the distribution network operator in respect of announcing the conditions for connection to its network. The law lays down that connection costs shall be borne 75 % to 25 %, 75 % being borne by the distribution network operator.

## **Measures implemented and being prepared**

### **Creation of a certification system for installers**

As of 2011, the law provides for a certification system for installers. The certificates are issued by the Slovak Ministry of Economy, which also establishes the examination committee. Applicants are allowed to sit the examination after completing an accredited training programme. The first certificates were awarded in 2012. Accredited training programmes are currently available for all types of equipment as required by the directive.

### **Support for the cultivation of fast-growing woody plants**

As of 2013, the law simplifies the cultivation of fast-growing woody plants on agricultural land.

### **Increase in the production of woody raw material – promotion of energy crop planting**



Legislation is being drawn up for 2014, proposing to classify energy crops and forest plantations as plantation forests with a view to simplifying the planting of energy crops.

### **Postponed measures**

The following measures were envisaged in the Renewable Energy Action Plan but have not yet been implemented for the reasons indicated below.

#### **Introduction of a tendering system for the construction of plants for intermittent electricity generation**

Due to reduced support for solar power plants and wind power plants and to solar power plants' installed capacity exceeding that specified in the National Renewable Energy Action Plan, the tendering system for the construction of plants for intermittent electricity generation was discontinued for 2011-2013. Support is not provided for solar power plants installed on the ground. Their capacity of 500 MW has exceeded the estimate in the Action Plan, amounting to more than 1.6 times the expected capacity for 2020.

#### **Mandatory use of RES in new and renovated buildings**

The current Energy Policy does not set out any obligations in respect of new and recently renovated buildings. The updated Energy Policy that was to assess obligations regarding the use of RES in such buildings was not approved before the end of 2013.

#### **Minimum amount in new and renovated buildings**

The current Energy Policy does not set out any obligations in respect of new and recently renovated buildings. The updated Energy Policy that was to consider the options for setting minimum amounts of RES in such buildings was not approved before the end of 2013.

### **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)**

Electricity suppliers are required to provide electricity customers with information about the shares of the various types of primary energy sources in electricity produced and supplied in the preceding year. The information must also be provided, upon request, to the relevant state administration authority. However, electricity suppliers are not required to demonstrate that their supply contains a specific share of electricity from renewable energy sources.

### **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)**

The support scheme for electricity from RES was designed to ensure effective use of biomass and biogas. Electricity associated with heat production is supported.

In the case of biomass and bioliquids, feed-in tariff support is only granted to cogenerated electricity, provided that biomass meets the quality requirements and parameters and bioliquids meet the sustainability criteria. This condition does not apply to the firing of municipal waste with a biodegradable waste content of up to 55 %, inclusive.

The feed-in tariff for electricity generated from biogas is reduced by 30% where the supply of usable heat is less than 50 % of the annual production of heat.

For electricity generated from biomethane, the feed-in tariff is 15 % higher than that for biogas. This increase is conditional on the electricity being produced in high-efficiency cogeneration.

No premiums have been set for biofuels made from waste, residues, non-food cellulosic material or ligno-cellulosic material.

**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)**

Under Act No 309/2009, guarantees of origin for electricity from renewable energy sources are issued by an independent regulator (the Office for the Regulation of Network Industries) upon request by the electricity generator.

Guarantees of origin are not issued for heating and cooling.

The reliability of guarantees of origin for electricity from RES is ensured by the regulator, which keeps an electronic database in which it registers electricity generators before issuing a guarantee of origin for the first time. When applying for a guarantee of origin, the electricity generator must provide all the information needed to be stored in the electronic database; the regulator then verifies this information.

The regulator also has the following powers:

- it maintains records of guarantees of origin for electricity from RES in the electronic database;
- it cancels guarantees of origin for electricity from RES;
- it exercises supervision over the transfer of guarantees of origin for electricity from RES.

The guarantee of origin contains all the particulars set out in Directive 2009/28/EC. Guarantees of origin for electricity from RES which were issued in a different Member State under a mechanism ensuring accuracy and reliability in the issuance of guarantees of origin are recognised for the purposes of this law. The Office may refuse to recognise a guarantee of origin for electricity from RES issued in a different Member State if it has well-founded doubts about its accuracy, reliability or veracity. When this occurs, the regulator checks the authenticity of the guarantee of origin and asks the applicant to address these concerns within a certain time limit. If the concerns are not removed within the time limit, the regulator does not recognise the certificate of origin and prohibits its transfer.

**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)**

The demand for energy wood from non-wooded land has increased considerably. It concerns woody plants from unused agricultural land, woods along waterways, linear plantings etc. This is due to the lower production costs of wood chips compared with their production on wooded land. The planting of energy crops has not progressed significantly. The demand for fuel wood and raw material for the production of wood chips from wooded land increased gradually, in particular due to the stagnation of the prices of higher-quality deciduous tree products. The production potential of energy wood on wooded land continues to be insufficiently utilised. Wood imports for the production of wood chips increased due to their higher cost efficiency. The gap between the location of sources of woody biomass for firing and places of consumption continues to grow.

Approximately 450 000 ha of agricultural land (18.5 % of agricultural land) is currently not being used for agricultural production. According to an inventory, 275 000 ha of this land ('white areas') are covered by forest species mainly as the result of their natural succession. Stocks of woody raw material are approximately 36 500 000 m<sup>3</sup>.

Some 300 000 ha of permanent grassland (11.3 % of agricultural land) is available for energy use.

It is suggested that **tables 4 and 4a** are used to provide more detailed information on the biomass supply.

**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)	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
<i>Biomass supply for heating and electricity:</i>												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	1 198 000 m <sup>3</sup>	1 384 000 m <sup>3</sup>	271.9	314.1	0	0	0	0	39 000 m <sup>3</sup>	51 000 m <sup>3</sup>	8.9	11.6
Indirect supply of wood biomass (residues and co-products from wood industry etc.)**	1 949 000 t	1 986 000 t	529.6	539.9	0	0	0	0	71 000 t	89 000 t	19.3	24.2
Energy crops (grasses, etc.) and short rotation trees (please specify)	246 000 m <sup>3</sup>	380 000 m <sup>3</sup>	122.2	188.8	0	0	0	0	0	0	0	0
Agricultural by-products / processed residues and fishery by-products **	0	0	0	0	0	0	0	0	0	0	0	0
Biomass from waste (municipal, industrial etc.) **	59 000 t	65 000 t	16.1	17.7	0	0	0	0	0	0	0	0
Others (please specify)												
<i>Biomass supply for transport:</i>												
Common arable crops for biofuels (please specify main types)	Rapeseed: 210 000 t Maize 300 000 t	178 000 t 300 000 t	65 28.8	55 28.8	n. a.	n. a.	n.a.	n.a.	n. a.	n.a.	n.a.	n.a.
Energy crops (grasses, etc.) and short rotation trees for biofuels (please specify main types)	0	0	0	0	0	0	0	0	0	0	0	0
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)		
		2011	2012
1. Land used for common arable crops (wheat, sugar beet etc.) and oilseeds (rapeseed, sunflower etc.) (Please specify main types)	Rapeseed	145 000	108 000
	of which for energy use	<b>98 000</b>	<b>73 000</b>
	Maize	194 000	212 000
	of which for energy use	<b>54 000</b>	<b>80 000</b>
	Wheat	379 000	342 000
	of which for energy use	0	0
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)		-	-

**7. Please provide information on any changes in commodity prices and land use within your Member State in the preceding 2 years associated with increased use of biomass and other forms of energy from renewable sources. Please provide where available**

**references to relevant documentation on these impacts in your country. (Article 22(1)(h) of Directive 2009/28/EC)**

*When assessing commodity price impacts, it is suggested to consider at least the following commodities: common food and feed crops, energy wood, pellets.*

**Average purchase prices for agricultural products in €/t**

Product	2008	2009	2010	2011	2012
Food-grade wheat	188.87	115.12	147.84	196.83	205.40
Industrial-grade wheat	140.31	93.13	126.13	164.54	181.20
Grain maize	154.95	97.7	148.86	167.08	199.70
Sunflower	280.16	200.78	346.74	356.55	446.00
Rapeseed	415.39	241.18	319.24	460.62	484.00

Source: Slovak Statistical Office

The price of energy chips varied between €42 and €55 per tonne in 2011 and 2012. These prices are rising slowly because wood chips are increasingly being produced from wood extracted from non-wooded land and from residues from the wood-processing industry, causing energy chips produced from tree crowns on wooded land to be less competitive. Conversely, the continued stagnation in pulpwood prices supports its greater use for energy purposes.

The price of fuel wood in 2011 and 2012 varied between €36 and €42 per m<sup>3</sup>, implying an average increase of €4 over 2010. Fuel wood pricing is influenced by the development in prices of natural gas for households. Demand for fuel wood continues to rise in the households segment, particularly in rural areas.

Prices of wood pellets on the domestic market ranged from €180 to €220 per tonne (inclusive of VAT) in 2012. Given the extensive availability of gas supply in Slovakia, with prices of pellets insufficiently attractive compared with natural gas prices for households, the consumption of pellets in Slovakia is rising only slowly.

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

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

Article 21(2) biofuels <sup>26</sup>	2011	2012
Production – Fuel type X (Please specify)	0	0
Consumption – Fuel type X (Please specify)	0	0
Total production Art. 21.2 biofuels	0	0
Total consumption Art. 21.2 biofuels	0	0
% share of 21.2 fuels from total RES-T	0	0

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

Biofuels and bioliquids in Slovakia meeting sustainability criteria are produced from agricultural raw materials

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

grown and produced in accordance with the requirements and standards for good agricultural and environmental condition under Council Regulation (EC) No 73/2009. This is guaranteed by a declaration of the farmer or the supplier of biomass stating that the requirement for good agricultural and environmental condition has been met.

At the moment there is no relevant data on the impacts of producing biofuels on biodiversity, water resources, water quality or soil quality. These impacts are assumed to be negligible since the area of crops cultivated for biofuels in 2009 to 2012 did not increase significantly compared with the preceding period.

## 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 calculation of net greenhouse gas emissions savings due to the use of energy from renewable sources was carried out for electricity and heating using reference values for fossil fuels for the whole of the EU, in line with the report on sustainability requirements for the use of solid and gaseous biomass sources to produce electricity, heating and cooling<sup>27</sup>.

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

Environmental aspects	2011	2012
<b>Total estimated net GHG emission saving from using renewable energy<sup>28</sup></b>	<b>6 280 000</b>	<b>6 204 000</b>
- Estimated net GHG saving from the use of renewable electricity	4 114 000	4 191 000
- Estimated net GHG saving from the use of renewable energy in heating and cooling	1 983 000	1 872 000
- Estimated net GHG saving from the use of renewable energy in transport	183 000	141 000

## 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 Member States and/or third countries, as well as estimated potential for joint projects until 2020. (Article 22 (1)(l) and (m) of Directive 2009/28/EC)

**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 Member States and/or third countries in [Member State] (ktoe)<sup>29, 30</sup>**

	Year n-2 (2011)	Year n-1 (2012)	2011	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)	302*	254*	181**	240**	228	313	305	364	269	349	190	143

\* **actual:** excess compared to the indicative trajectory

\*\* estimate stated in the NREAP

<sup>27</sup> Report available at this address:

[http://ec.europa.eu/energy/renewables/transparency\\_platform/doc/2010\\_report/com\\_2010\\_0011\\_3%20report.pdf](http://ec.europa.eu/energy/renewables/transparency_platform/doc/2010_report/com_2010_0011_3%20report.pdf)

<sup>28</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>29</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 Member State may correct the data of the previous reports.

<sup>30</sup> When filling in the table, for deficit production please mark the shortage of production using negative numbers (e.g. -x ktoe).

The excess estimated for the coming years remains unchanged compared with the NREAP. It is expected that the excess in the period from 2013 to 2020 will predominantly come from the production of heating and cooling from renewable energy sources. Currently no countries have been earmarked for exports of excess energy from renewable energy sources.

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

The Ministry of Economy is holding talks with other Member States on statistical transfers of energy from renewable sources. The rules, conditions and instructions relating to statistical transfers and planned participation in joint projects will be published on the Ministry's website. Slovakia is not currently anticipating any joint projects in its territory. Slovakia does not favour joint support schemes.

### **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)**

The amount of biodegradable waste in municipal waste is determined directly by companies involved in recovering energy from waste. This data is recorded and sent to the Statistical Office. As regards municipal waste incineration, only the biological portion of waste in municipal waste is supported, up to a maximum biodegradable waste share of 55 %. This also corresponds to analyses that have been done, in which the share of biodegradable waste has been estimated at 50 %.

#### **Answers to questions under Article 22 (3) (a) to (c).**

##### **Does the Slovak Republic intend to:**

##### **a) establish a single administrative body responsible for processing authorisation, certification and licensing applications for renewable energy installations and providing assistance to applicants;**

There is no plan to create an administrative body responsible for processing authorisation, certification and licensing applications for renewable energy installations and providing assistance to applicants.

##### **b) provide for automatic approval of planning and permit applications for renewable energy installations where the authorising body has not responded within the set time limits; or**

The authorising body acts in accordance with the time limits laid down in legislation. It approves or rejects applications within the time limits. It is not necessary to introduce this possibility for producers of energy from RES.

##### **c) indicate geographical locations suitable for exploitation of energy from renewable sources in land-use planning and for the establishment of district heating and cooling.**

The development of renewable energy sources is not specified regionally by the State. Investors' interest in using RES is based on using the best local conditions. For this reason, geographical areas are not being specified. The energy policy recommends that regions (higher territorial units) promote the use of RES and identify suitable areas for it to be developed.

Significant efforts are being made to preserve the system of district heating and measures will be adopted at national level to promote the use of renewable energy sources for heating and cooling, while increasing pressure for improving their efficiency.