

Report on the Results of Stimulation and Use of Energy from Renewable Sources

1. Shares of sectors, overall shares, and actual consumption of energy from renewable sources during the preceding two years (n-1; n-2; e.g., 2013 and 2012) (*Article 22(1)a of Directive 2009/28/EC*).

The calculation of the share of energy consumption from renewable sources was conducted pursuant to the energy balance of 2012 and 2013 developed by the State Statistics Committee.

Table 1. Shares of energy from renewable sources by sector (power generation, heating and cooling systems, and transport) and overall shares of energy from renewable sources

	2013	2012
Renewable sources in heating and cooling systems (%)	3.96	2.99
Renewable sources in power industry (%)	8.71	6.42
Renewable sources in transport (%)	1.21	0.55
Total share of renewable sources (%), including:	4.56	3.41
<i>Borrowing under interstate cooperation (%)</i>	0	0
<i>Surplus for interstate cooperation (%)</i>	0	0

Table 1a. Calculation table of shares of energy from renewable sources in the overall end-use consumption of energy by sector (ktoe)

	2013	2012
(A) Overall end-use consumption of energy from renewable sources in heating and cooling systems	1747	1370
(B) Overall end-use consumption of electric power from renewable sources	1312	980
(C) Overall end-use consumption of energy from renewable sources in the transport sector	107	51
(D) Total consumption of energy from renewable sources	3101	2401
(E) Transmission of energy from renewable sources to other Contracting Parties or Member States	0	0
(F) Transmission of energy from renewable sources from other Contracting Parties and to third parties	0	0
(G) Target-adjusted consumption of energy from renewable sources (D)-(E)+(F)	0	0

Table 1.b. Overall actual shares (installed power, total electric power output) of each renewable energy technology of Ukraine for achievement of 2020 binding targets and indicative intermediate trajectory of achieving the share of energy from renewable sources in power generation¹

	2013		2012	
	MW	GWh	MW	GWh
Hydropower stations:				
non-storage hydropower stations	4 669.31	13 993.19	4 656.50	10 634.90
<i>rated below 1MW</i>	21.97	285.986	26.6	171.9
<i>rated for 1-10MW</i>	53.34		46.9	
<i>rated above 10MW</i>	4 594.00	13 707.20	4 583.00	10 463.00
storage hydropower stations				
<i>mixed-mode</i>				
Geothermal power stations				
Solar power stations:	748.4	562.9	371.6	333.6
<i>photovoltaic</i>	748.4	562.9	371.6	333.6
<i>concentrated solar power plants</i>				
Tidal power, wave, ocean power plants				
Wind power stations:	334	636.5	193.8	257.5
<i>land-based</i>	334	636.5	193.8	257.5
<i>offshore</i>				
Biomass:	28.7	43.4	10.2	21.2
<i>solid</i>	17.2	32.4	6.2	17.7
<i>biogas</i>	11.5	11	4	3.5
<i>bioliquids</i>				
TOTAL	5 780.41	15 235.99	5 232.10	11 247.20
<i>including combined heat and power plants</i>				

¹According to the Ministry of Energy and Coal Industry and the National Energy Regulatory Commission data

Table 1c. Overall actual shares (end-use energy consumption) of each renewable energy technology of Ukraine for achievement of 2020 binding targets and indicative intermediate trajectory of achieving the share of energy from renewable sources in heating and cooling systems (ktoe)

Data are unavailable due to deficient statistical observations in 2012 and 2013.

	2013	2012
Geothermal (other than low-temperature geothermal heat for use in heat pumps)		
Solar		
Biomass:		
<i>solid</i>		
<i>biogas</i>		
<i>bioliquids</i>		
Renewable energy from heat pumps, including:		
- aerothermal		
- geothermal		
- hydrothermal		
TOTAL		
<i>including in centralized systems</i>		
<i>in private households</i>		

Table 1d. Overall actual shares of each renewable energy technology of Ukraine for achievement of 2020 binding targets and indicative intermediate trajectory of achieving the share of energy from renewable sources in the transport sector (ktoe)²

	2013	2012
Bioethanol/ethyl tertiary butyl ether made of bioethanol	42	—*
<i>including biofuels to Article 21.2</i>	—	—
<i>including imported</i>		
Biodiesel fuel		
<i>including biofuel to Article 21.2</i>	—	—
<i>including imported</i>	—	—
Hydrogen from renewable sources	—	—
Electric power from renewable sources		
<i>including motor transport</i>	—	—
<i>including other than motor transport</i>	65	51
Other (biogas, vegetable oils etc.), specify	—	—
<i>including biofuel to Article 21.2</i>	—	—
TOTAL	107	51

² According to the energy balance data prepared by the State Statistics Service.

* According to the energy balance data, the total primary energy derived from biofuel and waste amounted to 1565 ktoe in 2012; however, it was not used in the transport sector.

2. Actions taken during the preceding two years and/or those planned at the national level to promote increased generation of energy from renewable sources, taking into account the indicative trajectory of achieving the national targets for energy from renewable sources as indicated in your National Renewable Energy Action Plan. (Article 22(1)a of Directive 2009/28/EC)

Table 2. Outline of key policy actions and activities

Action description and designation	Action type *	Expected result **	Target group and/or type of activity ***	Existing or planned ****	Action start and end date
2012					
Adoption of the Law of Ukraine "On Amending Certain Laws of Ukraine on Production and Use of Motor Fuels Containing Bio-Components" (Setting up standardized content of bioethanol in gasoline).	Regulatory	Increased production of bioethanol.	Investors, bioethanol production (biofuel production) entities	Existing	Enacted: 12 July 2012. Validity period: Unlimited.
Adoption of the Law of Ukraine "On Amending Certain Laws of Ukraine on Grid Connection Fee for Natural Monopolies" (regulating the issues of connection of power facilities generating electric power using alternative sources of energy).	Regulatory	Increased number of renewable energy facilities connected to the unified energy grid.	Investors, renewable energy companies, power transmission organizations.	Existing	Enacted: 1 January 2013 Validity period: Unlimited.
Adoption of the Law of Ukraine "On Amending the Law of Ukraine 'On Electric Power Industry' Regarding Stimulation of Generation of Electric Energy from Alternative Sources of Energy": - setting a "green" tariff for biomass of animal origin, waste, and biogas;	Regulatory	Favorable conditions created for development of bioenergy industry, individuals engaged in use of solar energy, incentives provided for development of micro- and mini-hydropower plants.	Investors, biofuel electric power generators, private households, hydropower companies.	Existing	Enacted: 1 April 2013 Validity period: Unlimited.

- differentiation of "green" tariff for micro-, mini- and small hydropower plants; - setting a "green" tariff for individual power station construction stages; - reducing the "green" tariff for solar power plants; - setting a "green" tariff for solar power plants in private households.					
Approving the Procedure of setting, revision, and termination of "green" tariff for economic entities (NERC Resolution of 2 November 2012, No. 1421).	Regulatory	Regulating the issue of "green" tariff setting.	Investors, renewable energy sector entities	Existing	Enacted: 10 December 2012. Validity period: Unlimited.
Conducting the IV International Investment Business Forum on energy efficiency and renewable energy.	Organizational and information	Building the public awareness on the need of using renewable sources of energy.	Investors, end users, government bodies (generation of energy from renewable sources and alternative fuels).	Existing	November 2012.
Conducting the IV International Specialized Exhibition "Energy Efficiency. Renewable Energy 2012".	Organizational and information	Building the public awareness on the need of using renewable sources of energy.	Investors, end users, (generation of energy and production of fuel from renewable sources).	Existing	November 2012.
2013					
Approving an updated Energy Strategy of Ukraine for up to 2030 (Ordinance of the Cabinet of Ministers of Ukraine dated 24 July 2013, No.1071-r).	Regulatory	Increased electric power generation from renewable sources.	Investors, electric power industry entities.	Existing	Approved: 24 July 2013. Validity period: Unlimited.
Amending the Procedure of setting, revision, and termination of "green" tariff for economic entities (NERC Resolution of 14 March	Regulatory	Regulating the issue of local components and setting a "green" tariff for start-up complexes.	Investors, renewable energy sector entities, manufacturers of equipment for renewable	Existing	Enacted: 23 April 2013 Validity period:

2013, No.251).			energy sector.		Unlimited.
Approving the Rules of connecting electric installations to electric power networks (NERC Resolution of 17 January 2013, No. 32).	Regulatory	Regulating the issue of connecting renewable energy facilities to electric networks.	Investors, renewable energy sector entities, electric power transmission organizations.	Existing	Enacted: 28 February 2013. Validity period: Unlimited.
Approving the Procedure of financing the services of connection of electric installations to electric power networks (NERC Resolution of 21 November 2013, No. 1467).	Regulatory	Regulating the issue of financing the services of connecting electric installations to electric power networks.	Investors, power industry facilities.	Existing	Enacted: 10 December 2013. Validity period: Unlimited.
Approving the Methodology for calculating the fee for connecting electric installations to electric power networks (NERC Resolution of 12 February 2013, No.115).	Regulatory	Regulating the issue of calculating the fee for connecting electric power facilities.	Power transmission organizations, power industry entities.	Existing	Enacted: 19 March 2013. Validity period: Unlimited.
Conducting the V International Investment Business Forum on energy efficiency and renewable energy.	Organizational and information	Building the public awareness on the need of using renewable sources of energy.	Investors, end users, government bodies (generation of energy from renewable sources and alternative fuels).	Existing	5 through 8 November 2013.
Conducting the V International Specialized Exhibitions "Energy Efficiency. Renewable Energy 2013".	Organizational and information	Building the public awareness on the need of using renewable sources of energy.	Investors, end users (production of energy and fuel from renewable sources).	Existing	5 through 8 November 2013.

* Specify if an action is (mostly) regulatory, financial or organizational and information one (e.g., information campaign).

** Is the expected result a change of behavior, installed power (MW; t/year), generated energy (ktoe)?

*** Who are the target audience: investors, end users, government agencies, planners, architects, installers etc.? Or what is the target activity/sector: production of biofuels, use of manure for energy purposes etc.?

**** Does this action replace or supplement those listed in Table 5. of the National Renewable Energy Action Plan?

According to the Action Plan for implementation of Directive 2009/28/EC, the official websites of ministries and regional state administrations continuously highlight information about the support provided to implementation of activities aimed at generation of energy from renewable sources, as well as the benefits, cost, and energy efficiency of the equipment and systems using renewable sources of energy.

The central and local executive authorities and local governments are reporting on a quarterly basis to the State Agency on Energy Efficiency and Energy Saving about the renewable energy promotional activities conducted, as well as the meetings, roundtables, public hearings, forums, conferences, public service announcements arranged with the aim of increasing the amount of energy obtained from renewable sources and alternative fuels in the country.

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

Approval of the Procedure of setting, revision, and termination of "green" tariff for economic entities by NERC Resolution of 2 November 2012, No.1421, stating the conditions of setting and terminating the "green" tariff and providing the list of documents needed for "green" tariff setting.

On 13 March 2014, amendments were made to the Procedure of determining the local component for electric power facilities, including the commissioned stages of power station construction projects (start-up complexes), which generate electric power from alternative sources of energy (other than blast-furnace gas and coke-oven gas) approved by NERC Resolution of 27 June 2013, No. 744 (the Procedure). The updated version of the Procedure clarifies the list of documents to be submitted by the applicant in order to prove compliance of the local component amount to the amount required by law, details the procedure of Commission's review and applicant's submission of additional documents, and sets the deadlines for review of such documents. These changes contribute to improvement of the administrative procedures related to generation of electric power from alternative sources.

The Rules of connecting electric installations to electric power networks approved by NERC Resolution of 17 January 2013, No.32 describe special considerations for connecting the electric installations designed for generation of electric power from alternative sources of energy. Also, for compliance with the requirements of these Rules, a power transmission organization is to issue a relevant order to regulate actions of its personnel with regard to allocation of rights and responsibilities in the course of activities of connection and hookup of customer electric installations. It also ensures implementation of the principle of "one-stop-shop" for the customer.

2.b. Please describe the measures taken to ensure the transmission and distribution of electricity produced from renewable energy sources, and to improve the framework or rules for bearing and sharing of costs related to connection to the grid and grid strengthening. (Article 22(1)f of Directive 2009/28/EC)

According to Article 12 of the Law of Ukraine "On Electric Power Industry," in the process of approval of investment programs and sources of their funding for power transmission organizations, the National Energy Regulatory Commission shall take into account the cost of services of connection of the generating facilities, which generate electric power from alternative sources of energy, according to the procedure of financing the services of connection of electric installations to electric power networks.

Every year, the National Energy Regulatory Commission makes public the information on the costs of connection to electric power networks for the power facilities, which generate electric power using alternative sources of energy.

In addition, according to Article 24 of that Law, the power suppliers engaged in electric power transmission using their own networks are not allowed to refuse access to such networks for the electric entities, which generate power using alternative sources of energy. The power suppliers engaged in activities of electric power transmission using their own networks shall provide in their investment programs for the costs of connection of electric power facilities, which generate electric power from alternative sources of energy.

3. Please describe the support schemes and other measures to promote energy from renewable sources, and indicate any developments in the measures used with respect to those set out in your national renewable energy action plan. (Article 22(1)b of Directive 2009/28/EC)

The main tools for stimulating the development of renewable energy in Ukraine include:

- setting a "green" tariff for electric energy produced from alternative sources; and
- granting tax benefits.

The Law of Ukraine "On Electric Power Industry" envisages setting a "green" tariff for stimulating generation of electric power from alternative sources of energy (other than blast-furnace and coke-oven gases, and for hydropower plants only for the power generated by micro-, mini- and small hydropower plants).

The "green" tariff is a special tariff for purchase of electric power generated by electric power facilities, including the commissioned stages of electric power stations under construction (start-up complexes), from alternative sources of energy.

In general, the "green" tariff rate is calculated from the formula established by the Law on Electric Power Industry as follows:

$$\text{GTR} = \text{RP} * \text{C} * \text{PLC}, \text{ where}$$

GTR is the "green" tariff rate, depending on the type of the alternative source of energy;

RP is the retail price of electric energy for class two users as of January 2009, set by NERC Resolution No. 1440 of 23 December 2008;

C is the coefficient established by the Law on Electric Power Industry;

PLC is the peak load coefficient for three-zone tariff classification used in calculations for certain types of power stations set out by NERC Resolution No.1241 of 20 December 2001.

Minimum "Green" Tariff Rates Used after 1 April 2013

Type of alternative source of energy	Power station capacity and other factors influencing the "green" tariff rate	RP, €/kWh	C	PLC	Tariff rate (€ kW)
Wind	600kW or less	0.05385	1.2	--	0.06462
	More than 600kW but less than 2000kW	0.05385	1.4	--	0.07539
	2000kW or more	0.05385	2.1	--	0.113085
Solar energy	Ground-level power plants	0.05385	3.5	1.8	0.339255
	Power plants installed on rooftops and/or building facades rated in excess of 100kW	0.05385	3.6	1.8	0.348948
	Power plants installed on rooftops and/or building facades rated for 100kW or less	0.05385	3.7	1.8	0.358641
	Power plants on rooftops and/or fronts of private household rated for 10kW or less	0.05385	3.7	1.8	0.358641
Biomass and biogas	Waste	0.05385	2.3	-	0.123855
Hydropower stations	Microhydro power plants (rated for 200kW or less)	0.05385	2	1.8	0.19386
	Minihydro power plants (rated for more than 200kW but less than 1000kW)	0.05385	1.6	1.8	0.155088
	Small hydropower stations (rated for 10,000kW or less)	0.05385	1.2	1.8	0.116316

Phased Reduction of "Green" Tariff (€/MWh)

Energy source type	Power station capacity and other factors influencing the "green" tariff rate	Tariff				
		Through 31 March 2013	From 1 April 2013 to 31 December 2014	From 1 January 2015 to 31 December 2019	From 1 January 2020 to 31 December 2024	From 1 January 2025 to 31 December 2029
Wind	600kW or less	64.62	64.62	58.15	51.70	45.23
	More than 600kW but less than 2000kW	75.39	75.39	67.85	60.31	52.77
	2000kW or more	113.08	113.08	101.77	90.46	79.16
Solar energy	Ground-level power plants	465.26	339.25	305.33	271.40	237.47
	Power plants installed on rooftops and/or building facades rated in excess of 100kW	445.87	348.94	314.05	279.15	244.26
	Power plants installed on rooftops and/or building facades rated for 100kW or less	426.49	358.64	322.77	286.91	251.05
	Power plants on rooftops and/or fronts of private households rated for 10kW or less	x	358.64	322.77	286.91	251.05
Biomass and biogas	Waste	123.85	123.85	111.47	99.08	86.69
Hydropower stations	Microhydro power plants (rated for 200kW or less)	77.54	193.86	174.47	155.08	135.70
	Minihydro power plants (rated for more than 200kW but less than 1000kW)	77.54	155.08	139.58	124.07	108.56
	Small hydropower stations (rated for 10,000kW or less)	77.54	116.31	104.68	93.05	81.42

Also, the **Tax Code** sets out special conditions for taxation of corporate profits generated in connection with the conduct of economic activity in the renewable energy sector, viz.:

1. According to para. 197.16 of Article 197 of the Tax Code of Ukraine and Article 19 of the Law of Ukraine "On Unified Customs Tariff," customs and tax preferences are granted for import in Ukraine of energy saving equipment, machinery, and materials, namely:

a) equipment using renewable sources of energy, energy-saving equipment and materials, equipment for measuring, monitoring, and controlling consumption

of fuel and energy resources, equipment and materials for the production of alternative fuels or generation of energy from renewable sources of energy;

b) materials, equipment, and set-making items used for the production of:

- equipment using renewable sources of energy;

- materials, stock, equipment and set-making items to be used for the production of alternative fuels or generation of energy from renewable sources of energy;

2. Tax on the plots of land (both within and outside of populated localities) allocated for placement of the power facilities, which generate electric power from renewable sources of energy, is levied at 25% of the standard tax rate;

3. The electric power generated from renewable sources of energy is exempt from the fee in the form of special-purpose surcharge to the effective electric and heat energy tariff;

4. The following shall be tax-exempt on a temporary basis until 1 January 2020:

- profit of biofuel producers generated from biofuel sales;
- profit of enterprises generated from activities of simultaneous power and heat energy generation and/or production of heat energy from biological fuels;
- profit of manufacturers of the apparatus, equipment, and machinery prescribed by Article 7 of the Law of Ukraine "On Alternative Fuels" for the production and reconstruction of technical and transport facilities, including self-propelled agricultural machines and power installations using biological fuels, such profit being generated from sales of said apparatus, equipment, and machinery made in the territory of Ukraine.

5. On a provisional basis until 1 January 2020, tax exemption is granted with regard to the profits of enterprises generated by them from the economic activity of extraction and use of gas (methane) of coal fields, which is conducted according to the Law of Ukraine "On Gas (Methane) of Coal Fields";

6. For the period of ten years, starting on 1 January 2011, tax exemption is granted for the profits of electric power enterprises accrued from sales of electric energy generated from renewable sources of energy (this provision was recalled in July 2014).

7. Tax exemption is granted for 80% of the profits of enterprises received from sale in the customs territory of Ukraine of their own products pursuant to the list set by Resolution of the Cabinet of Ministers of Ukraine:

- equipment using renewable sources of energy;
- materials, stocks, equipment and set-making items to be used for the generation of energy from renewable sources of energy; and
- equipment for the production of alternative fuels.

Table 3. Renewable Energy Support Systems

Year of applying renewable energy support systems (2013)		Energy production output, toe	Support amount per unit, €/toe	Total support amount, €mn*
1. Total annual estimated amount of support in power generation sector:		130950	2677	350.579
a. Power generated from solar radiation			5152	249.36
Tools	Tax exemption of imports in the customs territory of Ukraine	48402	450	21.77
	Difference between the "green" tariff and wholesale market price		4700	227.59
b. Wind power			570	31.202
Tools	Tax exemption for equipment imported in the customs territory of Ukraine	54731	24	1.327
	Difference between the "green" tariff and wholesale market price		550	29.875
c. Electric power generated from biomass and biogas				
Tool	Difference between the "green" tariff and wholesale market price	3222	670	2.16
d. Electric power generated by small hydropower plants				
Tool	Difference between the "green" tariff and wholesale market price	24595	460	11.417
e. Electric power generated by renewable energy enterprises				
Tool	Exemption from tax on profit from sale of electric power generated from renewable sources	130950	430	56.44
2. Total annual estimated amount of support in the heating sector				
Tool	Exemption from tax on profit of enterprises received by them from the activities of simultaneous electric and heat energy production using biological fuels and/or production of heat energy using biological fuels	114500	0.01	0.0011
3. Total annual estimated amount of support in the production of alternative fuels				
Tool	Producers of biofuels exempt of tax on profit generated from sale of biofuels	367148	4.6	1.678

*The following exchange rate is used for the calculations: €100 = UAH 1062.3496.

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)

According to Article 15 of the Law of Ukraine "On Electric Power Industry," purchase of all electric energy produced at electric power stations whose capacity or sales volume exceed the ceilings (other than the cases envisaged by this Law) and all its bulk sales shall be made on the wholesale electricity market of Ukraine. Operation of other wholesale electricity markets in Ukraine is prohibited.

The wholesale electricity market of Ukraine is obliged to buy from the economic entities, which enjoy the "green" tariff, all the electricity generated by power facilities from alternative sources of energy (other than blast-furnace and coke-oven gases, and for hydropower, only the electricity generated by micro-, mini- and small hydropower plants) under "green" tariff, irrespective of the installed power or sales volume.

As of 1 January 2014, the electricity generated from solar radiation by electric power facilities (generating plants) of private households whose installed power does not exceed 10kW shall be purchased by the energy suppliers, which supply electricity under regulated tariff in the area of conduct of the licensed activity under "green" tariff at the amount not to exceed the monthly consumption of electricity by such private households. Generation of electricity from solar radiation by private households shall be conducted without a respective license. The procedure of sale and accounting of such electricity and payment for it shall be approved by the National Energy Regulatory Commission.

4. Please provide the information on how were structured the support schemes to take into account renewable energy 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)

Article 22(1)c of Directive 2009/28/EC states that support schemes for renewable energy applications that give additional benefits shall be provided if needed.

At this time, no such support schemes are being developed in Ukraine.

5. Please provide the information on the functioning of the system of guarantees of origin for electricity and heating and cooling from renewable energy sources and the measures taken to ensure the reliability and protection against fraud in the system (Article 22(1)d of Directive 2009/28/EC)

Resolution No.771 of 24 July 2013 of the Cabinet of Ministers of Ukraine approved the Procedure of issuance, use, and termination of the guarantees of origin for electricity for economic entities, which generate electricity from alternative sources of energy.

At present, the State Agency on Energy Efficiency and Energy Saving is authorized to issue the guarantees of origin. However, it is lacking the technological capacity and funds for implementing an electronic register for

keeping record of data on issuance, use, and termination of guarantees, and has no control and supervisory powers for conducting relevant checks.

Therefore, the State Agency on Energy Efficiency and Energy Saving has developed a legislative draft according to which the issuance of the guarantees of origin could be entrusted to the Energorynok State Enterprise, which, by authority granted to it by the Cabinet of Ministers of Ukraine, shall provide the organizational and material and technological support to operation of the wholesale electricity market, calculation of the reporting balance of electricity buying and selling, and has reliable information about the amount of electricity generated by renewable energy facilities. At the time of this writing, the legislative draft is in the process of approval by the interested central executive agencies.

tons (for production of solid biofuel)												
Biomass from household waste, **	147.6	149.9	44.3	45	-	-	-	-	-	-	-	-
Animal and plant waste	412.4	526.9	123.72	157.8								
Supply of biomass for transport:												
General hoed crops for biofuel (specify main species)					-	-	-	-	-	-	-	-
a) sugar beet in production of sugar and bioethanol from molasses, thousand metric tons	5783	2257	204	80	-	-	-	-	-	-	-	-
Energy crops (grasses etc.) and short-cycle trees for biofuel (specify main species)	-	-	-	-	-	-	-	-	-	-	-	-
Other (specify)	-	-	-	-	-	-	-	-	-	-	-	-

¹ According to the Ministry of Agricultural Policy and State Forestry Agency data.

* If possible, specify the amount of raw materials **in cu m for forestry biomass and in metric tons for agricultural and fisheries biomass, and biomass from waste.**

** Designation of this biomass category should be understood according to Table 7 of Part 4.6.1. of Commission Decision C (2009) 5174 final on approving the template for National Renewable Energy Action Plans pursuant to Directive 2009/28/EC.

Table 4a. Current Status of Use of Country's Agricultural Land for Cultivation of Energy Crops (ha)

Land use	Area (ha) ¹	
	2013	2012
1. Land used for general crops (wheat, sugar beet etc.) and oil crops (rape, sunflower etc.)	2 976 330	2 467 110
Sugar beet (*) for production of biofuel (Molasses, a byproduct in sugar beet processing, is used for the production of bioethanol)	148 660	58 020
Sunflower seeds (*) for energy generation (sunflower seed husks are used for generation of heat for the needs of vegetable oil producing plants in agribusiness)	2 815 170	2 403 840
Wheat (*) for energy generation (straw is used for the production of solid biofuels for generation of thermal energy)	12 500	5 250
2. Land planted with fast-growing trees (willow, poplar). (Specify main species)		
Willow (**)	3200	400
3. Land used for other energy crops, such as grasses (reed canary grass, switch grass, silver grass), sorghum. (Specify main species)		
Silver grass (**)	500	60
Sorghum (**)	84	-

¹ According to the Ministry of Agrarian Policy data

Notes: (*) Listed in Table 4 are only the cultivation areas of crops, which have actually been used for cultivation of sunflower, sugar beet, and wheat (and/or their waste and byproducts) used for the production of biofuel, electric and heat energy.

(**) The extent of cultivation of energy crops (willow and silver grass) is given based on operational data of research institutions of the National Academy of Sciences of Ukraine and the Ministry of Agrarian Policy, which have pilot plantations for growing planting material, and of individual companies, which are growing said crops for sale or production of solid biofuel. The data are operational and could be finalized or adjusted if statistical reporting is introduced.

7. Please provide information on changes in commodity prices and land use within your Contracting Party during the preceding two years, associated with its increased use of biomass and other forms of energy from renewable sources. If available, provide references to the relevant documentation on this influence in your country. (Article 22(1)h of Directive 2009/28/EC)

When evaluating the influence on commodity prices, include at least the following commodity: general food and fodder crops, energy wood, pellets.

Data for 2012-2013 are unavailable.

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 Biofuels to Article 21(2) (ktoe)

Biofuel to Article 21(2)	2013	2012
Production– type X fuel (specify)		
Consumption– type X fuel (specify)		
Total production output of biofuel to Article 21.2		
Total consumption of biofuel to Article 21.2		
Share of fuel to Article 21.2 in the total renewable sources of energy in transport, %		

As the National Renewable Energy Action Plan for the period of up to the year 2020 was approved on 1 October 2014, gathering of statistics with regard to the shares of biofuels made from waste, residues, non-food cellulosic materials, and ligno-cellulosic material was not conducted in 2012 and 2013.

9. Please provide information on the estimated impact of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality in your country in the preceding two years. Please provide information on how this impact was evaluated, giving references to relevant documents on this impact in your country. **(Article 22(1)j of Directive 2009/28/EC)**

According to paragraph 12 of the Action Plan for implementation of Directive 2009/77/EC approved by Ordinance No.791-r of 3 September 2014 of the Cabinet of Ministers of Ukraine, the Ministry of Agrarian Policy and the State Agency on Energy Efficiency and Energy Saving are working to develop the sustainability criteria for liquid and gaseous fuels made from biomass and used in transport, as well as for liquid fuels made of biomass and intended for energy uses other than transport, taking into account the generation of electric and heat energy.

When developing and implementing the schemes of monitoring the compliance with the sustainability criteria, the recommendations will be taken into account provided by representatives of the Energy Community Secretariat at the seminar *Sustainability Criteria and Biofuel Certification Schemes*, which was held at the State Agency on Energy Efficiency and Energy Saving on 9 December 2014.

10. Please give the estimated net greenhouse gas emission saving due to the use of energy from renewable sources. (Article 22(1)k of Directive 2009/28/EC)

For calculating the estimated net greenhouse gas emission saving due to the use of energy from renewable sources, the following methodology is proposed:

- *For biofuels: According to Article 22(2) of Directive 2009/28/EC.*
- *For electricity and heat energy, it is proposed to use the EU indicators of comparison of fossil fuels for electricity and heat energy, as indicated in the report on requirements with regard to sustainable use of solid and gaseous sources of biomass in electric power generation, heating and cooling systems, if more recent evaluations are unavailable.*

If the Contracting Party decides against using the proposed methodology for evaluating the net greenhouse gas emission saving, please describe any other methodology used for estimating this saving.

Paragraph 12 of the Action Plan for implementation of Directive 2009/28/EC approved by Ordinance No.791-r of 3 September 2014 of the Cabinet

of Ministers of Ukraine provides for development of the methodology for calculation of greenhouse gas emission saving indicators by the end of 2015. Such methodology will make it possible to calculate the net greenhouse gas emission saving due to the use of energy from renewable sources.

Table 6. Estimated Greenhouse Gas Emission Saving due to Use of Energy from Renewable Sources (metric tons of CO₂ equivalent)

Ecological aspects	2013 Year n-1	2012 Year n-2
Total estimated net greenhouse gas emission saving due to use of energy from renewable sources	-	-
- Estimated net greenhouse gas emission saving due to use of electricity from renewable sources of energy	-	-
- Estimated net greenhouse gas emission saving due to use of energy from renewable sources in heating and cooling systems	-	-
- Estimated net greenhouse gas emission saving due to use of energy from renewable sources in transport	-	-

11. Please specify (for the preceding two years) and estimate (for subsequent years until 2020) any excess/deficit production of energy from renewable sources compared to the indicative trajectory, which could be transferred to other Contracting Parties and/or to third parties or imported from other Contracting Parties and/or third parties, as well as the estimated potential for joint projects, until 2020 (Article 22(1)l, m of Directive 2009/28/EC)

Table 7. The Actual and Estimated Excess and/or Deficit (-) in the Production of Energy from Renewable Sources Compared to the Indicative Trajectory, which Could be Transferred to Other Contracting Parties, Member States, and/or Third Parties, or Imported from Other Contracting Parties, Member States, and/or Third Parties in Ukraine (ktoe)

	2012 Year n-2	2013 Year n-1	2014	2015	2016	2017	2018	2019	2020
The actual/estimated excess or deficit production (with break-down by type of energy from renewable sources and by origin/import/export purpose)	0	0							

11.1. Please provide the data on statistical transfers, joint projects, and decision-making rules with regard to joint support system. If the Contracting Party decides to implement Article 8 and/or Article 9 of the Council of Ministers Decision, it should inform about the measures taken for arranging for the conduct of an independent external audit according to Article 13 of the Council of Ministers Decision.

The National Renewable Energy Action Plan for the period of up to the year 2020 makes no provision for statistical transfers of energy from renewable sources.

12. Please provide information on how the share of 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)

Let us note that in the first progress report (for 2014) the Contracting Parties are requested to outline their intentions with regard to the questions presented in Article 22(3a-c). Also, we ask the Contracting Parties to provide any other information regarded as relevant for the concrete situation of renewable energy development in each of the Contracting Parties.

No calculations of the share of biodegradable waste in the waste used for producing energy were conducted in 2012 and 2013.

The conversion of energy units into tons of oil equivalent as presented in this report was conducted according to *Table A3.4 Conversion Equivalents between Units of Energy* from the *Energy Statistics Manual* developed by the Energy Statistics Department at the International Energy Agency with support from the Eurostat.