



REPUBLIC OF CROATIA
MINISTRY OF THE ECONOMY

REPORT

**ON PROGRESS IN THE PROMOTION AND USE OF RENEWABLE ENERGY 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 AND AMENDING AND SUBSEQUENTLY
REPEALING DIRECTIVES
2001/77/EC AND 2003/30/EC**

REPUBLIC OF CROATIA
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Zagreb, January 2014

INTRODUCTION

By acceding to full membership of the European Union on 1 July 2013, the Republic of Croatia, like all other Member States, assumed the obligation under Directive 2009/28/EC on the promotion of the use of energy from renewable sources with a view to increasing the use of renewables to reach at least a 20% share of energy from renewable sources in gross final consumption at the EU level by 2020.

Article 22 of Directive 2009/28/EC 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 Directive 2009/28/EC and the National Renewable Energy Action Plan [NREAP] of each Member State. The data included in these reports will also serve to measure the impacts referred to in Article 23 of Directive 2009/28/EC.

The report by the Republic of Croatia 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 Plans¹.

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 Council².

¹ C(2009)5174

² OJ L 304, 14.11.2008, p. 1

1. Sectoral and overall shares and actual consumption of energy from renewable sources in the two preceding years (2011 and 2012) (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 sources³

	2011	2012
RES-H&C ⁴ (%)	12.8	13.5
RES-E ⁵ (%)	34.5	35.6
RES-T ⁶ (%)	1.4	2.2
Overall RES share ⁷ (%)	14.2	15.1
<i>Of which from cooperation mechanism⁸ (%)</i>	0	0
<i>Surplus for cooperation mechanism⁹ (%)</i>	0	0

Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)¹⁰

	2011	2012
(A) Gross final consumption of RES for heating and cooling	367.9	385.5
(B) Gross final consumption of electricity from RES	541.9	552.9
(C) Gross final consumption of energy from RES in transport	17.0	31.3
(D) Overall gross RES consumption ¹¹	927	970
(E) Transfer of RES to other Member States	0	0
(F) Transfer of RES from other Member States and 3rd countries	0	0
(G) RES consumption adjusted for target (D)-(E)+(F)	927	970

³ Facilitates comparison with Table 3 and Table 4a of the National Renewable Energy Action Plans (NREAPs).

⁴ 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.

⁵ 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.

⁶ 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.

⁷ Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.

⁸ In percentage point of overall RES share.

⁹ In percentage point of overall RES share.

¹⁰ Facilitates comparison with Table 4a of the NREAPs

¹¹ 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 the Republic of Croatia to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity.¹²

	2011		2012	
	MW	GWh	MW	GWh
Hydro ¹³ :	2 139.2	5 969.8	2 140.3	5 962.8
non-pumped				
<1MW	0	0	0	0
1MW-10MW	31.1	67.1	32.1	102.2
>10MW	2 108.1	5 902.7	2 108.1	5 860.6
pumped	0	16.3	0	16.3
mixed ¹⁴				
Geothermal	0	0		
Solar:	6.0	12.1	6.4	7.3
photovoltaic	6.0	12.1	6.4	7.3
concentrated solar power	0	0		
Tide, wave, ocean	0	0		
Wind:	124.9	287.3	158.0	347.6
onshore	124.9	287.3	158.0	347.6
offshore	0			
biomass ¹⁵ :	5.0	33.0	10.8	52.9
solid biomass	2.7	0.2	2.7	0.2
biogas	2.2	32.8	8.1	52.7
bioliquids	0			
TOTAL	2 275.1	6 302.2	2 315.5	6 370.5
of which in CHP	2.7	0.1	2.7	0.1

Table 1c: Total actual contribution (final energy consumption¹⁶) from each renewable energy technology in [Croatia] to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in heating and cooling (ktoe)¹⁷

	2011	2012
Geothermal (excluding low temperature geothermal heat in heat pump applications)	6.2	7.4
solar	6.7	9.6
biomass ¹⁸ :	337.3	349.5

¹² Facilitates comparison with Table 10a of the NREAPs.

¹³ Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

¹⁴ In accordance with new Eurostat methodology.

¹⁵ Biomass complying with applicable sustainability criteria taken into account, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

¹⁶ Direct use and district heat as defined in Article 5.4 of Directive 2009/28/EC.

¹⁷ Facilitates comparison with Table 11 of the NREAPs.

¹⁸ Biomass complying with applicable sustainability criteria was taken into account, cf. Article 5(1), last subparagraph, of Directive 2009/28/EC

<i>solid biomass</i>	336.6	348.4
<i>biogas</i>	0.7	1.1
<i>bioliquids</i>	0	0
Renewable energy from heat pumps: - of which aerothermal - of which geothermal - of which hydrothermal	21.4	26.4
TOTAL	20.0	24.3
<i>of which DH¹⁹</i>	0	0
<i>of which biomass in households²⁰</i>	1.4	2.1
	371.6	392.8
	28.4	31.7
	306.0	313.8

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)^{21 22},

	2011	2012
Bioethanol/ bio-ETBE	0	0
<i>of which biofuels²³ Article 21(2)</i>	0	0
<i>of which imported²⁴</i>	0	0
Biodiesel	17.4	32.1
<i>of which biofuels²⁵ Article 21(2)</i>	0	0
<i>of which imported²⁶</i>	0	0
Hydrogen from renewables	0	0
Renewable electricity	9.5	10.0
<i>of which road transport</i>	0	0
<i>of which non-road transport</i>	9.5	10.0
Others (as biogas, vegetable oils, etc.) - please specify	0	0
<i>of which biofuels²⁷ Article 21(2)</i>	0	0
TOTAL	26.9	42.2

¹⁹ District heating and / or cooling from total renewable heating and cooling consumption (RES - DH).

²⁰ From the total renewable heating and cooling consumption.

²¹ For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.

²² Facilitates comparison with Table 12 of the NREAPs.

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

²⁴ From the total amount of bioethanol / bio-ETBE.

²⁵ Biofuels included in Article 21(2) of Directive 2009/28/EC.

²⁶ From the total amount of biodiesel.

²⁷ Biofuels included in Article 21(2) of Directive 2009/28/EC.

2. Measures taken in the two preceding years and/or planned at the 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 the 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
ELECTRICITY					
1.Promotion of use of RES in electricity generation	Legal Financial	35% of total direct consumption of electricity to be generated from RES by the end of 2020.	Project developers with plans to develop RES plants Eligible electricity producers	Existing	2007 -
HEATING AND COOLING					
1.Promotion of generation of thermal/cooling energy from RES	Financial Legal	Greater use of national potential heat for heating and cooling.	Managers of projects to develop cogeneration plants and heating plants using RES eligible electricity and heat producers	Planned	2015 -
2.Promotion of use of cogeneration	Legal Financial	By the end of 2020, the minimum share of electricity generated from cogeneration plants by eligible producers and delivered to the transmission or distribution network to amount to 4% of total direct consumption of electricity.	Managers of projects plans to develop cogeneration plants Eligible electricity producers	Existing	2007 -
3.Promotion of use of RES by natural persons	Financial	Deployment of projects contributing to achieving the 20% target for the share of RES in direct energy consumption by 2020	Natural persons (households) Legal persons (small and medium businesses)	Existing	2008 -

4. Use of fuel produced from cement industry waste	Legal Financial	Contribution towards achieving the 20% target for the share of RES in direct energy consumption by 2020	Local and regional self-government units Cement plants	Existing	2011 -
BIOFUELS AND OTHER BIOLIQUIDS					
1. Obligation to place biofuels on the Croatian market	Legal	Increase in biofuel consumption Contribution to achieving the 10% target for the share of RES in energy generation for transport by 2020.	Diesel fuel and gasoline distributors	Existing	2010 -
2. Obligation to purchase or lease vehicles that can use biofuels in public transport and the public sector	Legal	Increase in biofuel consumption Contribution to achieving the 10% target for the share of RES in energy generation for transport by 2020.	Public transporters and public sector	Existing	2011
3. Promotion of biofuel production	Financial Legal	Increase in biofuel production	Biodiesel and bioethanol producers	Existing	2010 -
4. Financial incentives for the purchase of hybrid and electric vehicles	Financial	Increase in share of electric and hybrid vehicles. Primary energy consumption savings.	Buyers of hybrid and electric vehicles	Planned	2014 -
INTERSECTORAL MEASURES					
1. Promotion of RES use and energy efficiency through the Croatian Bank for Reconstruction and Development (CBRD)	Financial	Contribution towards achieving the 20% target of RES in direct energy consumption by 2020	Local and regional self-government units, utilities, companies, craftsmen. Commercial banks that have formed agreements with the CBRD on implementing the programme.	Existing	2009 -

2.Promotion of the use of RES and energy efficiency using funding from the Environment Protection and Energy Efficiency Fund (EPEEF)	Financial	Contribution towards achieving the 20% target of RES in direct energy consumption by 2020	Local and regional self-government units, public institutions, companies, craftsmen, non-government associations, non-profit organisations, natural persons.	Existing	2004 -
3.Energy efficiency projects with investment repaid as energy savings (ESCO model)	Financial	Increase of the use of heat generated from RES in the public and private sectors.	Private and public sector Building sector, public lighting, energy distribution systems.	Existing	2004
4.Local activities	Organisation- and society-related	Change of behaviour – raising awareness about RES.	Local government, interest groups, general public.	Existing	2004-

* 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)

Among the identified barriers and shortcomings in the development of renewable energy projects, the following are considered to be the most important: the procedure for obtaining permits for 'small-scale projects' (especially household projects) is no simpler than the procedure for other projects; the issuing of preliminary energy permits has caused problems on account, firstly, of the reservation of sites by investors who failed to launch their projects and, secondly, of the questionable justification of a site for aspects other than energy potential (land planning, environment- and nature-protection considerations); insufficient quota for solar power plants in relation to the possibility of acquiring the status of eligible producer, and the general non-alignment of objectives stemming from regulations on RES with the national energy strategy and the lack of harmonisation of these regulations with other special regulations (on construction, mining, water management); the limited technical capacity of the electricity system to incorporate new RES facilities because of a lack of regulatory power under conditions of the intermittent operation of such facilities; administrative obstacles related to placing predetermined and available quantities of biomass on the market so as to ensure the smooth operation of biomass power plants, and shortcomings related to the land-planning documentation required in respect of determining the location of RES-powered plants. The majority of the barriers identified have been eliminated thanks to amendments to the acts and implementing measures described below.

The Act amending the Electricity Market Act (*Narodne Novine* [NN - the Official Gazette of the Republic of Croatia] No 59/12) lays down a definition of what constitutes a simple building and repeals the obligation to obtain an energy permit. This was a necessary precondition for the simplification of administrative procedures for the construction of solar power plants, which are deemed to be simple buildings. The Rules amending the Rules on Simple Buildings and Works (NN No 81/12) define simple buildings and the works which may be carried out without the issue of official documents authorising the construction and without a permit for the site. The Rules stipulate that such documents need not be obtained in order to construct 'photovoltaic module systems for the

purpose of electricity generation', or solar power plants, which are deemed to be simple buildings within the meaning of the Rules.

Thanks to the adoption of the Tariff System (NN Nos 63/12, 121/12 and 144/12), the Rules on the use of RES and cogeneration (NN No 88/12) and the Rules on acquiring the status of eligible electricity producer (NN No 88/12), administrative procedures for the construction of simple buildings in accordance with construction regulations, and of integrated solar power plants (solar power plants fitted on building surfaces), which in most cases may be regarded as simple buildings, have been simplified and numerous improvements have been made in terms of removing the obstacles identified in connection with the 2007 system of procedures and incentives for the production of electricity from renewables. The most significant of these are the following:

- Simplified administrative procedure; procedures for the construction of solar power plant projects as simple buildings have been simplified.
- Incentive purchase prices; as the initial costs of technological equipment for certain technologies have been reduced, levels of tariff items for new plants have been adjusted accordingly.
- Improved quality of technology allocation; for some technologies, allocation has been improved, with incentive purchase prices according to installed plant power.
- Action has been taken to prevent the manipulation of the size of tariff items by developing several smaller-scale projects (mostly solar, hydro-electric and biogas power plants) instead of a single large one.
- Increase in solar power plant quota; the quota to promote the construction of solar power plants between 1 MW and a total 15 MW installed power (10 MW for integrated solar power plants and 5 MW for non-integrated solar power plants) has been increased.
- The use of RES for generating heat energy has been enabled by providing additional bonuses to promote the use of solar and geothermal energy to generate thermal energy.
- Energy efficiency; an energy efficiency requirement has been introduced, requiring biomass and biogas plants to achieve a high level of efficiency, entailing an obligation to make use of the hot water too. This should result in new jobs in the secondary sector activities using the heat from biogas or biomass cogeneration and similar (greenhouse vegetable production, public building heating, development of district heating systems in smaller towns).

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

Measures to ensure the transmission and distribution of electricity generated from renewable sources are included in the medium-term development plan of the Croatian transmission network drawn up at the end of 2011. In accordance with new legal regulations, as of this year, the Croatian Transmission System Operator (HOPS) is required to draw up a ten-year network development plan in compliance with the non-binding Ten-Year Network Development Plan of the European Network of Transmission System Operators for Electricity (ENTSO-E TYNDP).

The main elements of the indicative plan with regard to further transmission network development and the aspect of developing renewable energy sources are as follows:

- the 400 kV network needs to be reinforced by means of new or reconstructed power transmission lines and substations in the event of the construction of a larger number of generating plants in the area of Lika and Dalmatia (thermal and hydro-electric power plants, wind farms);
- a considerable portion of the total investment into developing and revitalising the transmission network relates to the 110 kV network, which needs to be reinforced locally either by constructing new lines or by increasing transmission capacity in the process of revitalising existing lines;
- incorporating more wind farms into the Croatian electricity system entails a substantial increase

in the costs of energy balancing, as well as ancillary services, and a moderate to significant increase in investment in developing and revitalising the transmission network, whereby such costs should not be an additional burden on the operations of the Croatian transmission system operator (HOPS) so as not to prevent it fulfilling its obligations to other transmission network users;

- it will not be possible to incorporate more wind farms into the Croatian electricity system (more than approximately 400 MW) unless there is an efficient and comprehensive solution to the problem of secondary regulation and energy balancing in the entire Croatian electricity system. Therefore, HOPS suggests the following short- and long-term measures, which are outside its own competence, to solve the problem:
 - amendments to existing legislation setting up a market and market mechanisms to solve the regulation problem;
 - set up a valuation mechanism for ancillary services based on actual costs of suppliers;
 - until such time as the market and market mechanisms are set up, amendments to existing legislation to ensure mandatory provision of this ancillary service and regulate the reimbursement of costs;
 - by means of implementing legislation, include RES plants in the balancing mechanism as entities accountable for any deviation;
 - ensure a legal framework for cross-border exchange of regulating energies and balancing energy;
 - introduce a mandatory requirement by means of technical regulations that all new Croatian electricity system generators be equipped for operation in automated secondary P/f regulation;
 - the need to activate all existing hydro-electric power plants which have the technical capacity (Zakućac, Senj, Vinodol, Orlovac, etc.) to ensure active regulation;
 - encourage the construction of a gas-fired plant to solve regulation problems;
 - strategic decision - construction of reversible hydro-electric power plants in the Republic of Croatia – affording large capacities and possibilities.

With regard to creating conditions for safe RES plant connection and operation, it is also necessary to make provision for additional systems to predict RES generation, while also perfecting system operation planning and management systems in order to increase the use and efficiency of the regulating capacity of the electricity system as a whole.

The company HEP-ODS is responsible for the operation and management, maintenance, development and construction of the distribution network in the given area, and for ensuring the long-term capacity of the network to meet reasonable electricity distribution requirements. Energy generation in the distribution network constitutes distributed generation and, most frequently, involves the category of eligible producers due to their use of cogeneration or RES.

The changes which need to be implemented in the distribution network are as follows:

- structural changes in the network necessary to increase the input of distributed generation (RES);
- technological development and harmonisation with cutting-edge technology platforms in the area of distribution networks (e.g. 'smart grids').

Increased use of RES also calls for distributed energy sources, which connect to the distribution network. It is necessary to enable input from distributed sources and establish the technical conditions for the operation of active distribution networks.

The development and construction of the distribution network is planned and implemented by HEP-ODS through annual and multi-annual plans for distribution network development and construction, based on network development studies examining and analysing mutual impacts between the

network and all distributed sources connected – or scheduled to be connected – to the network.

HOSP and HEP-ODS continually invest in the automatisisation of electric power grids and ICT technology within the scope of their competence. Within the distribution network there are plans to include all HV/MV and MV/MV plants in the remote control system, equipping all meter points rated at more than 30 kW grid connection power with smart metering units, and defining priorities and targets and the plan for development of an advanced network (more than one operator).

The cost and fee allocation rules for connection to the grid or increasing grid connection power have been published in the Rules on the fee payable for connecting to the electric power grid and increasing connection power (NN No 28/06) and the Decision on the amount of fee payable for connecting to the electric power grid and increasing connection power (NN No 52/06). A distinction is drawn between producer connection to the low-voltage and medium-voltage grid and connection to the high-voltage grid.

Electricity producers (including those producing electricity from RES) do not pay a fee for use of the grid in respect of the energy they deliver to the grid. The tariff items for the transmission and distribution of electricity are payable by customers.

Improvements are being introduced in terms of providing any information which may be necessary. Accordingly, HOPS and HEP-ODS have published a detailed procedure for new producers of electricity from renewable sources to apply to be connected to the grid.

3. Please describe the support schemes and other measures currently in place which are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in the National Renewable Energy Action Plan. (Article 22(1)(b) of Directive 2009/28/EC)

The main national support programmes (measures) in the forms of economic instruments and financial mechanisms to promote the use of renewable energy are the following:

- Guaranteed purchase prices (feed-in tariffs) for the generation of electricity from renewable energy sources. Under the Tariff System pertaining to the generation of electricity from renewable energy sources and cogeneration, a producer of electricity using RES is entitled to State aid in the form of an incentive purchase price, provided that the producer has obtained a decision conferring the status of eligible electricity producer and has concluded an electricity purchase agreement with the Croatian Energy Market Operator (HROTE). HROTE pays the incentive purchase price to eligible producers under the Tariff System. The funds are provided by means of the charges for the promotion of electricity generation from RES payable by all electricity customers in proportion to total consumption.
- Promotion of biofuel production. The production of biofuels is encouraged by funding eligible producers in proportion to the amount of biofuel produced and placed on the Croatian market via the entities required to put biofuels on the market or end users, provided that the biofuel sale price, excluding taxes and mandatory charges, does not exceed the highest biofuel sale price and provided that the biofuels meet the sustainability requirement stipulated by the Transport Biofuels Act. The size of the share of revenue from excise tax set aside for the production of biofuels is specified by decision of the Government, according to the total planned expenditure of the biofuel production promotion system. The amount of the charges payable by distributors will be adjusted every year based on the amounts of biofuel needed, as well as biofuel prices on the international market, domestic costs of biofuel production and distributors' plans to market mineral fuels (in accordance with the prescribed methodology). HROTE is the authority responsible for implementing this measure.
- Promotion of the use of RES and energy efficiency using funds provided by the Environment Protection and Energy Efficiency Fund (EPEEF). The EPEEF provides funds to finance the preparation, implementation and development of programmes and projects in the field of environmental protection, improvement of energy efficiency and use of renewables, and mitigation of climatic change. The funds are provided from special-purpose EPEEF revenue collected via charges payable by environmental polluters, including charges for emissions of nitrogen oxides, sulphur dioxide and carbon dioxide, for polluting the environment with waste, for use of the environment and special environmental charges payable in respect of motor vehicles. RES projects funded by the EPEEF include solar energy, wind energy, biomass energy, energy from small hydro-electric power plants and geothermal energy. The EPEEF awards funds to local and regional self-government units, public institutions, companies, craftsmen, NGOs, non-profit organisations and natural persons through loans, interest subsidies, financial aid and donations.
- Promotion of the use of renewables and energy efficiency through the Croatian Bank for Reconstruction and Development (CBRD). To fund projects in the field of environmental protection, the CBRD grants loans through the Loan Programme for environmental projects, energy efficiency and RES. Loan proceeds are intended for investment in land, buildings, equipment and tools. Potential borrowers include local and regional self-government units (municipalities, towns and cities, counties and the City of Zagreb), provided that they meet all legal criteria, utility companies, other companies, craftsmen and other legal persons or commercial banks which have a cooperation agreement with the CBRD on implementation of the programme. The loan method involves extended credit to end beneficiaries through commercial banks and direct lending.

The support system indicators and level of support applicable to various renewable energy technologies (as per the recommendation made in the template) have been subdivided into Tables 3a (2011) and 3b (2012) concerning support programme (measures) aimed at promoting the use of energy from renewable sources by means of guaranteed purchase prices (feed-in tariffs), and Table 3c (2011) and 3d (2012) concerning the incentive programme (measures) aimed at promoting the use of energy from renewable sources through the use of Environmental Protection and Energy Efficiency Fund (EPEEF) funding. The support programme to promote the use of energy from renewable sources by encouraging the production of biofuels is described below, after Table 3b.

**Table 3a: Support schemes for renewable energy in 2011
through guaranteed purchase prices (feed-in tariffs)**

RES support schemes, 2011		Per unit support	Total (M€)*
Solar power plant up to (including) 10 kW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.4573 €/kWh	0.0316
	Feed-in premiums		
	Tendering		
Solar power plants from 10 kW up to (and including) 30 kW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.4035 €/kWh	0.0337
	Feed-in premiums		
	Tendering		
Solar power plants from 30 kW up to (and including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.2825 €/kWh	0.0002
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0928 €/kWh	0.0116
	Feed-in premiums		
	Tendering		
Wind farms up to (including) 1 MW			

Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0861 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using solid biomass from forestry and agriculture up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1614 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using solid biomass from the wood-processing industry			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1278 €/kWh	0
	Feed-in premiums		
	Tendering		
Geothermal power plants up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1695 €/kWh	0
	Feed-in premiums		
	Tendering		
Biogas power plants up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1614 €/kWh	3.8518
	Feed-in premiums		
	Tendering		
Liquid biofuel power plants up to (and including) 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0484 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using landfill gas and gas plant for waste water treatment up to (including) 1 MW			
Incentive	Obligation / quota (%)		
Purchase price in accordance with the Tariff System (NN No 33/2007)	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	0.0484 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using other RES up to (including) 1 MW			
Incentive	Obligation / quota (%)		
purchase price	Penalty / Buy out option / Buy out price (€/unit)		
under the Tariff	Average certificate price		
System	Tax exemption / refund		
(NN No 33/2007)	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0673 €/kWh	0
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 10 MW - producing up to (and including) 5000 MWh in the calendar year			
Incentive	Obligation / quota (%)		
purchase price	Penalty / Buy out option / Buy out price (€/unit)		
under the Tariff	Average certificate price		
System	Tax exemption / refund		
(NN No 33/2007)	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0928 €/kWh	0
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 10 MW - producing from 5000 MWh to (including) 15000 MWh in the calendar year			
Incentive	Obligation / quota (%)		
purchase price	Penalty / Buy out option / Buy out price (€/unit)		
under the Tariff	Average certificate price		
System	Tax exemption / refund		
(NN No 33/2007)	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0740 €/kWh	0
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (including) 10 MW - producing over 15000 MWh in the calendar year			
Incentive	Obligation / quota (%)		
purchase price	Penalty / Buy out option / Buy out price (€/unit)		
under the Tariff	Average certificate price		
System (NN No 33/2007)	Tax exemption / refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0565 €/kWh	0
	Feed-in premiums		
	Tendering		
Wind farms exceeding 1 MW			
Incentive	Obligation / quota (%)		
purchase price	Penalty / Buy out option / Buy out price (€/unit)		
under the Tariff	Average certificate price		
System (NN No 33/2007)	Tax exemption / refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0874 €/kWh	18.9746
	Feed-in premiums		
	Tendering		
Power plants using solid biomass from forestry and agriculture exceeding 1 MW			
Incentive	Obligation / quota (%)		
purchase price in accordance with the Tariff System (NN No 33/2007)	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	0.1399 €/kWh	0.7159
	Feed-in premiums		
	Tendering		
Power plants using solid biomass from the wood-processing industry exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1116 €/kWh	0.7791
	Feed-in premiums		
	Tendering		
Geothermal power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1695 €/kWh	0
	Feed-in premiums		
	Tendering		
Biogas power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.1399 €/kWh	0
	Feed-in premiums		
	Tendering		
Liquid biofuel power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0484 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using landfill gas and gas plant for waste water treatment exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0484 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using other RES exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 33/2007)	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	0.0673 6/kWh	0
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		HRK	24.3986 M€
Total annual estimated support in the heating sector			
Total annual estimated support in the transport sector		HRK 116 381 818.40	15.6549 M€

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

The effects of support schemes for renewable energy in 2011 through guaranteed purchase prices (feed in tariffs):

Total active contracts with eligible producers and installed plant capacity from 2007 to 31 Dec 2011	33 contracts 109 MW
Total installed power and energy produced by eligible producers included in the incentive scheme in 2011	109 MW 225 553 646 kWh
Total eligible producers and installed power of the plants put into permanent operation in 2011	16 contracts 15.3 MW

Table 3b: Support schemes for renewable energy in 2012 through guaranteed purchase prices (feed in tariffs)

RES support schemes, 2012		Per unit support	Total (M€)*
Solar power plant up to (and including) 10 kW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.3499 €/kWh	0.1699
	Feed-in premiums		
	Tendering		
Solar power plants from 10kW up to (and including) 30 kW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.2966 €/kWh	0.4211
	Feed-in premiums		
	Tendering		
Solar power plants from 30 kW up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	Obligation / quota (%)		
	Penalty / Buy out option / Buy out price (€/unit)		
	Average certificate price		
	Tax exemption / refund		
	Investment subsidies (capital grants or loans)		
	Production incentives		
	Feed-in tariff	0.2195 €/kWh	0.3511
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 1 MW – producing up to (and including) 500 MWh in the calendar year			

Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	0.0124
	Feed-in premiums		
Hydro-electric power plants up to (including) 10 MW - producing over 500 MWh up to (and including) 1000 MWh in the calendar year			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1064 €/kWh	0
	Feed-in premiums		
Hydro-electric power plants up to (including) 1 MW – producing over 1000 MWh in the calendar year			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0798 €/kWh	0
	Feed-in premiums		
Wind farms up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0958 €/kWh	0
	Feed-in premiums		
Power plants using solid biomass, excluding municipal waste, up to (including) 300 kW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1729 €/kWh	0
	Feed-in premiums		
Power plants using solid biomass, excluding municipal waste, exceeding 300 kW to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	0.7209
	Feed-in premiums		
Geothermal power plants up to (including) 1 MW			
Incentive purchase price	Obligation / quota (%)		
	Penalty / Buy out option / Buy out price (€/unit)		
	Average certificate price		

under the Tariff System (NN No 63/2012)	Tax exemption / refund		
	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.1596 €/kWh	0
	Feed-in premiums		
	Tendering		
Biogas power plants up to (including) 300 kW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1889 €/kWh	0.0147
	Feed-in premiums		
	Tendering		
Biogas power plants from 300 kW to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	7.6549
	Feed-in premiums		
	Tendering		
Liquid biofuel power plants up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using landfill gas and gas plant for waste water treatment up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using other RES up to (including) 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 10 MW – producing up to (and including) 5000 MWh in the calendar year			
Incentive purchase price under the Tariff	Obligation / quota (%)		
	Penalty / Buy out option / Buy out price (€/unit)		
	Average certificate price		
	Tax exemption / refund		

System (NN No 63/2012)	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.1330 €/kWh	0.2732
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 10 MW – producing from 5000 MWh up to (and including) 15000 MWh in the calendar year			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0931 €/kWh	0
	Feed-in premiums		
	Tendering		
Hydro-electric power plants up to (and including) 10 MW – producing over 15000 MWh in the calendar year			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0758 €/kWh	0
	Feed-in premiums		
	Tendering		
Wind farms exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0944 €/kWh	30.0086
	Feed-in premiums		
	Tendering		
Power plants using solid biomass, excluding municipal waste, up to (and including) 2 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using solid biomass, excluding municipal waste, over 2 MW up to (and including) 5 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1530 €/kWh	4.2943
	Feed-in premiums		
	Tendering		
Power plants using solid biomass, excluding municipal waste, over 5 MW up to (and including) 10 MW			
Incentive	Obligation / quota (%)		

purchase price under the Tariff System (NN No 63/2012)	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	0.1397 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using solid biomass, excluding municipal waste, exceeding 10 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1197 €/kWh	0
	Feed-in premiums		
	Tendering		
Geothermal power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	0
	Feed-in premiums		
	Tendering		
Biogas power plants up to (including) 2 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1596 €/kWh	0
	Feed-in premiums		
	Tendering		
Biogas power plants over 2 MW up to (and including) 5 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.1490 €/kWh	0
	Feed-in premiums		
	Tendering		
Liquid biofuel power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using landfill gas and gas plant for waste water treatment exceeding 1 MW			
Incentive purchase price under the Tariff System	Obligation / quota (%)		
	Penalty / Buy out option / Buy out price (€/unit)		
	Average certificate price		
	Tax exemption / refund		

System (NN No 63/2012)	Investment subsidies (capital grants or loans) (€/unit)		
	Production incentives		
	Feed-in tariff	0.0705 €/kWh	0.0036
	Feed-in premiums		
	Tendering		
Power plants using other RES exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Solar power plants exceeding 1 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.0705 €/kWh	0
	Feed-in premiums		
	Tendering		
Power plants using animal fat up to (including) 5 MW			
Incentive purchase price under the Tariff System (NN No 63/2012)	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	0.2195 €/kWh	0
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		HRK 330 197 679.02	43.9248 M€
Total annual estimated support in the heating sector			
Total annual estimated support in the transport sector		HRK 5 793 575.76	0.7707 M€

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

The effects of support schemes for renewable energy in 2012 through guaranteed purchase prices (feed in tariffs):

Total active contracts with eligible producers and installed plant capacity from 2007 to 31 Dec 2012	135 contracts 173 MW
Total installed power and energy produced by eligible producers included in the incentive scheme in 2012	173 MW 381 180 531 kWh
Total eligible producers and installed power of the plants put into permanent operation in 2012	103 64.7 MW

Biofuel production (promotion) support scheme

The system aimed at promoting the production and use of biofuels in transport was funded in 2011 and 2012 from special-purpose charges for the promotion of biofuel production. These charges are to be paid by distributors that market diesel fuel or motor gasoline for the operation of motor vehicles or boats and that are deemed, under the special law on excise charges, to be taxpayers liable to excise charges (as distributors). The Croatian Energy Market Operator (HROTE) collects the special-purpose biofuel production promotion charges from distributors and pays out incentives to biofuel producers, in accordance with the Biofuel Act and the implementing legislation. The incentive for the production of biofuel (biodiesel) amounted to HRK 4.02 and HRK 3.46 per litre in 2011 and 2012, respectively.

The implementing legislation stipulates in detail the criteria and procedures for entitlement to cash incentives, documentation proving that the criteria for entitlement to such incentives are met, as well as the terms and procedure for reimbursement of the incentive funds, the powers, obligations and responsibilities of HROTE in the biofuel production incentive scheme, the method of keeping a register of eligible biofuel producers, etc. The Decree and the Rules stipulate the method of implementing the scheme to promote biofuel production and its use in transport, as well as the collection of the special-purpose charge and the disbursement of cash incentives to beneficiaries – eligible producer of biofuels for transport. The biofuel production promotion charge is a special-purpose charge collected by HROTE in a separate account with a view to paying out cash incentives to the eligible producer by the end of 2012.

Thanks to the adoption of amendments to the Transport Biofuel Act (NN No 144/2012), the method of collecting funds has been changed, such that HROTE no longer collects special-purpose charges and, instead, a share of excise duty revenue is earmarked for the payment of incentives for biofuel production. Tables 3a and 3b at the end of the summary section provide indicators of the total estimated annual support in the transport sector.

Table 3c: Support schemes for renewable energy in 2011 using the Environmental Protection and Energy Efficiency Fund (EPEEF) funding

RES support schemes, 2011		Per unit support**	Total (M€)*
Heat pump			
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)	HRK 519 918.06	68.23 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Biomass boilers			
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)	HRK 1 335 690.28	175.29 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Pellet production			
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)	HRK 1 074 169.55	140.97 M€

	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Photovoltaic systems			
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)	HRK 1 558 556.75	204.54 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Solar thermal collectors			
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)	HRK 2 464 257.11	323.39 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Research works			
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)	HRK 32 198.33	4.23 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		HRK 1 558 556.75	204.54 M€
Total annual estimated support in the heating sector		HRK 5 426 233.33	712.10 M€
Total annual estimated support in the transport sector			

* The amount of energy produced with the per unit support gives an indication of the effectiveness of support for each type of technology..

** The Environmental Protection and Energy Efficiency Fund grants funds, regardless of the type of technology, at a percentage rate, usually between 40 and 80% of eligible investment costs, depending on the type of beneficiary, making it impossible to state the amount of support per unit (e.g. per installed kW) but only the amount of support funds disbursed in HRK or EUR (at the average exchange rate of EUR 1 = HRK 7.62).

In 2011, as part of the RES Use Promotion Scheme, the Environmental Protection and Energy Efficiency Fund provided funding for 13 projects, which received HRK 6 984 790.08 (EUR 916 639.12) in total. The co-financed projects in this area involved: the installation of thermal solar collectors, photovoltaic systems, heat pumps and biomass boilers, the construction of pellet production plants and research work related to the use of geothermal energy.

Table 3d: Support schemes for renewable energy in 2012 using the Environmental Protection and Energy Efficiency Fund (EPEEF) funding

RES support schemes, 2012		Per unit support**	Total (M€)*
Biomass boilers			
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)	HRK 6 250 928.11	820.33 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Heat pumps			
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)	HRK 60 000.15	7.87 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Hydro-electric power plant			
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)	HRK 2 880 096.67	377.97 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Pellet production			
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)	HRK 3 400 000.00	446.19 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Photovoltaic systems			
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)	HRK 2 253 759.03	295.77 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Solar thermal collectors			
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)	HRK 2 937 788.34	385.54 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Wind farm			
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)	HRK 3 400 000.00	446.19 M€

	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Preparation of project documentation			
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)	HRK 1 776 235.86	233.10 M€
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector		HRK 11 570 091.56	1 518.38 M€
Total annual estimated support in the heating sector		HRK 11 388 716.60	1 494.58 M€
Total annual estimated support in the transport sector			

* The amount of energy produced with the per unit support gives an indication of the effectiveness of support for each type of technology.

** The Environmental Protection and Energy Efficiency Fund grants funds, regardless of the type of technology, at a percentage rate, usually between 40 and 80% of eligible investment costs, depending on the type of beneficiary, making it impossible to state the amount of support per unit (e.g. per installed kW) but only the amount of support funds disbursed in HRK or EUR (at the average exchange rate of EUR 1 = HRK 7.62).

In 2012, as a part of the Scheme for the Promotion of the use of RES, the Environmental Protection and Energy Efficiency Fund provided funding for 37 projects, which received HRK 22 958 808.16 (EUR 3 012 966.95) in total. The co-financed projects in this area involved: the installation of thermal solar collectors, photovoltaic systems, heat pumps, biomass boilers, the construction of biomass boiler houses and biomass district heating, the construction of a pellet production plant, the construction of a wind farm, as well as a small hydro-electric power plant and the preparation of project documentation.

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))

In the context of electricity production from renewable energy sources and cogeneration scheme, HROTE has a legal obligation to collect charges for the promotion of electricity production from renewable energy sources and cogeneration (hereinafter: incentive charge) from electricity suppliers, and pay the incentive purchase price to electricity producers which meet all the criteria stipulated for acquiring the status of eligible producers. The adoption of the Tariff System (NN Nos 64/12, 121/12 and 144/12), the Rules on the use of RES and cogeneration (NN No 88/12) and the Rules on acquiring the status of eligible electricity producer (NN No 88/12) have simplified administrative procedures for the construction of simple buildings, in accordance with building regulations, and thus of integrated solar power plants (solar power plants fitted on building surfaces), which in most cases may be deemed to be simple buildings.

The administrative procedure for obtaining the documents required for facilities which are not simple buildings has remained unchanged. Once the project manager planning to build a RES plant or cogeneration plant, has obtained a preliminary decision conferring the status of eligible producer or decision conferring the status of eligible producer from the Croatian Energy Regulatory Agency (HERA) and concluded a pre-contract or a contract for connection to the electric power grid with the competent transmission system operator or distribution system operator, it then concludes a contract with HROTE on the purchase of electricity.

Under the Tariff System, the contract for the purchase of electricity is concluded for a fixed term of 14 years, and eligible producers are entitled to the incentive purchase price defined in the Tariff

System. The incentive purchase price payable by HROTE to an eligible producer for electricity delivered to the electricity system is payable out of the funds collected by HROTE on two bases:

- funds collected on the basis of each supplier's obligation to take (purchase) a portion of the electricity produced from renewable energy sources and cogeneration, based on its share of the total supply. Under the Tariff System and the Decree on the Minimum Share, HROTE sells electricity it has purchased to suppliers, in proportion to their share of the total electricity supply of the Republic of Croatia, at the average producer price (ACP) of electricity in 2012. The ACP amounted to HRK 0.4342/kWh in 2011 and up to 30 April 2012, and HRK 0.53/kWh for other months of 2012;
- in respect of the funds collected via incentive charges, HROTE enters into a contract with all suppliers and invoices a monthly amount of the incentive charge to them, depending on their customers' consumption. Suppliers collect the charge in the amount specified in the Decree on Charges from all their customers. The incentive charge was maintained at HRK 0.005/kWh or 0.5 lipa/kWh in 2012, as in 2011.

The Decree on Charges, HROTE stipulated the earmarked use of funds collected via the incentive charge for the following:

- payment of the incentive purchase price to eligible electricity producers included in the incentive scheme for electricity delivered to the electricity system from the plants of eligible producers using renewable energy sources, and from cogeneration plants;
- payment of the costs of electricity system balancing due to deviations in the amounts of electricity planned and produced from the plants of eligible producers entitled to the incentive purchase price;
- financing the activities of the market operator (HROTE) in the incentive scheme.

The Decree amending the Decree on Charges (NN No 8/11) stipulates that the incentive charge funds should be used to pay a special charge to electricity suppliers for the service of collecting the incentive charges in the amount of 1% plus 0.5% for risk cover, i.e. total of 1.5% of the basic amount, excluding value added tax, which HROTE invoices its suppliers.

Incentive purchase prices under the tariff systems are calculated in respect of electricity delivered to the electric power grid of the system operator to which the plant is connected. The incentive purchase price depends on the installed power of each plant, and is defined by the level of tariff items in the tariff systems.

In 2011 and 2012, HROTE paid balancing energy costs for each kWh produced by eligible producers to the transmission system operator *HEP-Operator prijenosnog sustava* (HEP-OPS d.o.o.). The total energy balancing costs were calculated as the product of 10% of the ACP of the total electricity produced from RES plants and cogeneration plants. The energy balancing costs for 2012 were calculated using the amount of HRK 0.04342/kWh or 10% of the ACP until 30 April 2012 and the amount of HRK 0.053/kWh as of 1 May 2012.

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))

For now, there is no special support for biofuels meeting the criteria referred to in Article 22(1) of the Directive. However, there is a provision in the Decree on the promotion of biofuel for transport under which the Croatian Government may specify additional biofuels, the production of which will be promoted, in accordance with scientific, technical and technological advances in biofuel production. It should be noted that special EPEEF financial support is in place for the collection of edible waste oils, but there are no special incentives to stimulate potential use of this raw material in the production of biofuels.

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*)

In 2012, no legislation yet existed to govern this area, but preparations were made for the adoption of a special implementing measure – a decree setting up a system of guarantees of origin for electricity which provides for the establishment of a system of guarantees of origin for electricity for the purpose of proving the percentage or amount of electricity produced from renewable energy sources and cogeneration in the overall amount of electricity delivered by suppliers to end customers.

6. Please describe the developments in the two preceding 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)
2006						
<i>Biomass supply for heating and electricity:</i>						
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	991 207	300.95			991 207	300.95
Indirect supply of wood biomass (residues and co-products from wood industry etc.)**	151 538	46.01			151 538	46.01
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.) **	9 169	2.19			9 169	2.19
Others (please specify)						
<i>Biomass supply for transport:</i>						
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 in m³ for biomass from forestry and in tonnes for biomass from agriculture and fishery and biomass from waste.

** The definition of this category of biomass 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.

The conversion factor / calculation method used for converting the amount of available sources into primary energy:

- Firewood: density of 580 kg/t, net calorific value of 4.2 kWh/kg (0.361 toe/t);
- Bark: density of 550 kg/t, net calorific value of 4.2 kWh/kg (0.361 toe/t);
- Wood industry residues: density of 580 kg/t, net calorific value of 4.2 kWh/kg (0.361 toe/t);
- Sewage sludge, residues from landscape management: density of 680 kg/t, net calorific value of 4.9 kWh/kg (0.421 toe/t);
- Agricultural biomass: density of 450 kg /t, net calorific value of 4.2 kWh/kg (0.361 toe/t).

The basis used for calculating the portion of municipal waste and industrial waste:

- Biodegradable municipal waste accounts for 28.6%, net calorific value of 0.358 toe/t;
- Biodegradable industrial waste accounts for 40%, net calorific value of 358 toe/t.

In 2012, pellets were produced at 12 plants. The total pellet production capacity was 278 544 tonnes per year, of which about 53 per cent was utilised. Of the total amount of pellets produced in 2012, about 92.3 per cent was placed on foreign markets, with a smaller portion used in the domestic market.

Briquette production capacity is estimated at around 48 027 tonnes per year, but production usually takes place periodically, depending on the raw material available – wood processing industry waste. Also, most of the briquette output is sold on foreign markets.

In Croatia, no agricultural land is used for growing energy crops.

7. Please provide information on any changes in commodity prices and land use within your Member State in the two preceding 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)

No data available as no agricultural land in Croatia is used for growing energy crops.

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)

In 2011 and 2012, there was no production or consumption of biofuels derived from waste, residues, non-food cellulosic material and lignocellulosic materials in transport.

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

Biofuels included in Article 21(2) ²⁸	2011	2012
Production – Fuel type X (Please specify)		
Consumption – Fuel type X (Please specify)		
Total production Art.21.2. biofuels 21.2	0	0
Total consumption Art.21.2. biofuels	0	0
% share of 21.2. fuels from total RES-T		

9. Please provide information on the estimated impacts of the production of biofuels and

²⁸ Biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material.

bioliquids on biodiversity, water resources, water quality and soil quality within your country in the two preceding 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*)

In 2011 and 2012, there was as yet no established system of assessing the impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality. However, action is being taken to lay the basis for an obligation to meet sustainability requirements in the production and use of biofuels and criteria for the recognition of biofuel energy to meet the national target for placing biofuels on the market, an obligation to place biofuels on the market and of the condition for entitlement to the payment of incentives for biofuel production in the Republic of Croatia.

The production of raw materials of agricultural origin in the Republic of Croatia to be used in the production of biofuels should comply with the sustainability criteria, as demonstrated by examining the records of the Paying Agency for Agriculture, Fisheries and Rural Development.

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

The contribution to the reduction in greenhouse gas emissions is determined in respect of the generation of electricity from RES, the use of RES in transport and the use of RES for heating and cooling in 2011 and 2012.

In order to determine the contribution made by renewable energy sources to reducing greenhouse gas emissions, the amount of CO₂ emission savings thanks to the use of renewables instead of fossil fuels was estimated. To be more precise, the emission savings were determined by substituting fossil fuels and the specific CO₂ emissions associated with them for the amounts of electricity generated from RES, RES energy used for heating and cooling and RES energy used in transport.

In the generation of electricity from RES, a comparison by sectors was made with fossil fuel power plants. The specific emission level from HEP thermal power plants was used for the calculation. The CO₂ emission savings from transport were determined with reference to gasoline and diesel fuel consumption. Calculation of CO₂ emissions from heating and cooling sectors was based on the use of heating oil instead of renewable energy sources.

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

Environmental aspects	2011	2012
<i>Total estimated net GHG emission savings from the use of renewable energy</i> ²⁹	5 768 661	5 885 141
- Estimated net GHG saving from the use of renewable electricity	4 947 227	5 000 921
- Estimated net GHG saving from the use of renewable energy in heating and cooling	791 838	829 719
- Estimated net GHG saving from the use of renewable energy in transport	29 596	54 501

The net greenhouse gas saving thanks to the use of renewable electricity involve substituting large hydro-electric power plants (>10 MW) with fossil fuels amounts to (tCO₂eq):

Environmental aspects	2011	2012
- Estimated net GHG saving from the use of renewable electricity from large hydro-electric power plants (> 10MW)	4 633 620	4 600 571

²⁹ 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.

Estimated greenhouse gas emission savings made by using renewable energy, compared to 2005 (tCO₂eq):

Environmental aspects	2011	2012
Total estimated net GHG emission savings from the use of renewable energy	368 69	485 17
- Estimated net GHG saving from the use of renewable electricity	304 97	358 66
- Estimated net GHG saving from the use of renewable energy in heating and cooling	34 652	72 533
- Estimated net GHG saving from the use of renewable energy in transport	29 074	53 979

11. Please report (for the two preceding years) and evaluate (for all the following years until 2020) the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/exported 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)

The Republic of Croatia is planning to achieve the overall target using domestic sources in the period until 2020. There is, thus, no estimated surplus and/or deficit in the production of renewable energy compared with the indicative trajectory in Croatia which could be transferred to/from other Member States and/or third countries. Therefore, the questions in this section are not applicable.

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

The Republic of Croatia is planning to achieve the overall target using domestic sources in the period until 2020. Therefore, the questions in this section are not applicable.

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)

Basis on which the portion of municipal waste and industrial waste is estimated: biodegradable municipal waste accounts for 28.6%, net calorific value of 0.358 toe/t, while biodegradable industrial waste accounts for 40%, net calorific value of 0.358 toe/t.

13. Please provide information related to Article 22(3) of Directive 2009/28/EC, which stipulates that Member States should provide additional information in their first report.

(a) establish a single administrative body responsible for processing applications for approvals, certification and licensing of plants for the production of energy from renewable sources, and providing assistance to applicants;

Most of the competence related to administrative procedures lies with the Ministry of the Economy, as the energy authority of the national administration. The Ministry is responsible for any administrative and professional activities related to the energy sector in the Republic of Croatia, for drafting proposals of energy laws and regulations, for planning and proposing energy development strategies and, especially, for any administrative and technical tasks related to renewable energy and cogeneration sources, for issuing energy approvals for acquiring the status of eligible electricity producers, keeping the Register of renewable energy sources and cogeneration and the Register of eligible producers.

The Ministry of Construction and Physical Planning is competent for any acts related to the siting (land planning) and construction of plants.

The Croatian Energy Regulatory Agency is the regulator of energy activities that qualify for eligible

electricity producer status to be awarded.

HROTE organises the electricity market under the supervision of the national regulator, and concludes contracts for the purchase of electricity from eligible producers entitled to the incentive purchase price, enters into contracts with all suppliers to purchase the electricity produced from renewable energy sources and cogeneration and collects incentive charges for energy generation from renewable energy sources and cogeneration from all suppliers in the electricity market.

Electricity system operators are responsible for the connection of the renewable energy and cogeneration plants to the network and the corresponding technical requirements.

(b) ensure an automatic grant of planning permissions and permits for energy generation plants from renewable sources if the authority responsible for their grant fails to respond in the prescribed time frame;

Applications for and the award of the permit documentation required in order to construct facilities for the generation of energy from renewable sources are, for the most part, covered by general administrative procedure rules. The rules define the timeframe and the treatment of applications from parties exercising their right to have the applications handled within the prescribed time frame under the administrative procedure.

(c) indicate the geographic locations suitable for the exploitation of energy from renewable sources in land-use planning for the purpose of establishing district heating and cooling;

No sites suitable for the exploitation of energy from renewable sources have been systematised in land-use planning for the purpose of establishing district heating and cooling. However, within the scope of specialised National Energy Programme activities, specific macro- and microlocations with the natural, technical and economic potential for RES exploitation have been identified for individual renewable technologies. In addition, data such as the geographic location of the RES plants which have been built, as well as any projects being developed or scheduled for construction with or without the use of heating and cooling systems, are available in the transparent public Register of renewable energy sources and cogeneration and the Register of eligible producers.