NATIONAL RENEWABLE ENERGY ACTION PLAN 2010-2020 (NREAP) SLOVENIA

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Contents

LISTS

1.1 Abbreviations

AP EEU	Action Plan for Efficient Energy Use
NREAP	National Renewable Energy Action Plan
AP GPP	Action Plan for Green Public Procurement
APEGG	survey of energy and fuel consumption in households
ARSO	Environment Agency of the Republic of Slovenia
B100	pure biodiesel without admixtures of petroleum diesel
DH	district heating
DHWB	district heating using wood biomass
E85	mixture of 85% bioethanol and 15% unleaded petrol
EC	European Council
EEA	European Environment Agency
ELHO	extra light heating oil
EnSvet	energy advice for the public
EREC	European Renewable Energy Council
ESCO	Energy Services Company
ERDF	European Regional Development Fund
EZ	Energy Act
GURS	Geodetic Administration of the Republic of Slovenia
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
BPWB	boiler plant using wood biomass
WB	wood biomass
LEA	local energy agency
LEC	local energy concept
MESAP	Modular Energy System Analysis and Planning Environment
ME	Ministry of the Economy
sHE	small hydroelectric station
MAFF	Ministry of Agriculture, Forestry and Food
MESP	Ministry of the Environment and Spatial Planning
NEP	National Energy Programme
NHO	non-profit housing organisation
OECD	Organisation for Economic Co-operation and Development
Off. Gaz. RS	Official Gazette of the Republic of Slovenia
OP-DETI	Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013
OP-GGE	Operational Programme for Reducing Greenhouse Gas Emissions up to 2012.
RES	renewable sources of energy
RDP	Rural Development Programme
REUEB	Rules on efficient use of energy in buildings
RECS	Renewable Energy Certificate System
REES-SLO	reference energy ecological model for Slovenia
ReNEP	Resolution on the National Energy Programme
TSS	transformer substation
SODN	system operator of the distribution network

SOIEDN	system operating instructions for the electricity distribution network
SOTN	system operator of the transmission network
CHP	combined heat and power generation
SORS	Statistical Office of the Republic of Slovenia
SVPS	Slovenian Government Climate Change Office
SVREZ	Slovenian Government Office for Development and European Affairs
SVLR	Slovenian Government Local Development Office
GHG	greenhouse gas
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
LPG	liquefied petroleum gas
EEU	efficient energy use

1.2 Tables

Introduction

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 (hereinafter: Directive 2009/28/EC) provides that each Member State must adopt a national renewable energy action plan (hereinafter: NREAP) for the period 2010-2020. These plans must set out the national targets of Member States for the shares of gross final energy from renewable sources (hereinafter: RES) consumed in transport, electricity and heating and cooling in 2010.

Directive 2009/28/EC serves to affirm two objectives in the area of RES, the mandatory 20% share of RES in gross final energy consumption in the European Community and the mandatory 10% share of RES in transport, which all Member States must achieve by 2020. It was decided that Slovenia must achieve at least a 25% share of RES in gross final energy consumption by 2020. However, going against the criteria of appropriate distribution and taking account of the differing starting points and potentials of European Union Member States, Directive 2009/28/EC sets a target of at least 10 percent for RES in transport on an equal level for each Member State.

The objective of the NREAP is to assess and determine the necessary quantitative values of energy consumption from RES by individual sector (heating and cooling, electricity and transport) and to propose measures to facilitate consumption of the desired quantity of energy from RES in future years. In the NREAP account needs to be taken of the effects of policies for efficient energy use (EEU) on final energy consumption, and measures that must be adopted to achieve the target shares of RES and to fulfil the requirements of Articles 13 to 19 of Directive 2009/28/EC, taking into account the cooperation of local and national authorities, the envisaged statistical transfers of energy from renewable sources between Member States or joint RES projects in other Member States or third countries, and national policies for developing existing and mobilising new sources of biomass.

For Slovenia to achieve these objectives, it can employ the following measures:

(a) support programmes,

(b) cooperation with Member States and third countries.

Directive 2009/28/EC also sets out the average indicative shares of RES for two-year periods (2011-2012, 2013-2014 and so on). If Slovenia does not achieve the average indicative share of RES in an individual two-year period, it will have to submit to the Commission of the European Communities (hereinafter: the Commission) by 30 June the following year an amended NREAP, in which it sets out adequate and proportionate measures whereby it will achieve the indicative shares of RES in gross final energy consumption within a reasonable deadline. The Commission will assess the NREAP or amended NREAP and may respond with recommendations.

In accordance with Directive 2009/28/EC the Commission adopted Commission Decision No. C(2009) 5174 establishing a template for National Renewable Energy Action Plans, and this includes the minimum requirements of Directive 2009/28/EC and is addressed to all Member States. In accordance with Article 4 of Directive 2009/28/EC, the use of this template is obligatory.

The NREAP therefore covers:

1. the national policy of renewable sources of energy,
2. expected gross final energy consumption in the period 2010-2020,
3. targets and trajectories regarding renewable energy sources,
4. measures for achieving binding target shares of renewable energy sources,
5. estimates of the contribution of individual technologies to achieving the target shares of renewable energy sources and estimates of the costs of carrying out measures and of impacts on the environment and on job creation.

The National Energy Programme sets out the long-term developmental goals and trajectories of energy systems and energy supply in Slovenia. It defines the goals of energy policy and the strategic measures that the Slovenian Government will implement to achieve these goals. The strategic goals and measures in the area of RES under the valid National Energy Programme are summarised in the first chapter of this action plan. The NREAP is an implementing act that defines sectoral goals and measures for achieving the national target share of gross final energy consumption from renewable energy sources in 2020.

The NREAP takes account of the fact that in order to achieve a 25-percent share of RES in gross final energy consumption, a range of measures will be drawn up and implemented in the area of efficient energy use and policies associated with energy use, which will be crucial in controlling the future growth of energy consumption. Efficient energy use measures are already being implemented as part of the established operational programmes (Efficient Energy Use Action Plan for the period 2008 to 2016 and associated measures, the NREAP) and these will have to be continued and their scope increased after 2016. Another vitally important factor will be controlling the rise of energy consumption in transport through the drafting and implementation of sustainable transport policy measures in the EU and Slovenia. With a 38-percent share of gross final energy consumption and just a 10-percent target share of RES in the transport sector, each increase in energy consumption in transport will entail a requirement for 1.5 times greater action in the heating or electricity sectors. Measures aimed at RES use in transport are covered by this document, while measures aimed at increasing the efficiency of vehicles, economical driving, introducing electric vehicles and hydrogen-powered vehicles and infrastructure for filling them are the subject of the national energy efficiency action plan or rather the NEP that is being drafted. The objective of the NREAP will be fulfilled as long as there is no drastic increase in the volume of transit traffic, and at the same time there is an adequate range of transport policy measures drawn up and implemented to promote greater use of public transport and to reduce the need for mobility in Slovenia.

In formulating the new National Energy Programme (hereinafter: NEP), which sets out Slovenia's long-term energy objectives, the measures defined in the NREAP will be taken into account. In formulating the NREAP, account has been taken of the advantage of early adoption of new technologies, especially in the area of dispersed generation of electricity and efficient energy use in industry, general consumption and transport.

1 National renewable energy policy

In the area of developing renewable energy sources, Slovenia must achieve ambitious targets that will contribute to increasing the reliability of energy supply, reducing impacts on the environment, economic growth and the development of jobs and employment.

In 2005 the share of RES in final overall energy consumption in Slovenia was 16.2 percent. Slovenia must achieve at least a 25-percent share in the balance of final energy by 2020. The most important renewable source of energy in the country is wood biomass, followed by hydroenergy, while in recent years development has been most dynamic in exploiting solar energy and biogas. The potentials of these energy sources, plus the potentials of wind and geothermal energy, will contribute to increased consumption of renewable energy sources.

Promoting renewable energy sources and prioritising efficient use and renewable energy sources are components of the Energy Act (hereinafter: EA) defined as energy policy goals. The programming document for Slovenia's energy policy – the Resolution on the National Energy Programme (hereinafter: ReNEP) – which was implemented in 2004, defines the mechanisms for promoting renewable energy sources and sectoral goals for renewables up to 2010. The new National Energy Programme, which is in the final stage of drafting and should replace the existing ReNEP by the end of 2010, will define the goals of energy policy up to 2030 and the mechanisms for implementing these goals, including the targets Slovenia has set itself in the EU climate and energy package up to 2020 and other international obligations.

In implementing the measures, account is taken of the environmental goals in the area of water, biodiversity, environment and cultural heritage that need to be observed in planning eligible use of space through national and municipal spatial acts.

The objectives of Slovenia's energy policy for renewable energy sources are:

- ensuring a 25% share of renewable energy sources in final energy consumption and a 10% share of renewables in transport by 2020, which under current predictions will involve a doubling of energy generated from renewable sources relative to the baseline year of 2005,

- halting the growth of final energy consumption,

- implementing efficient energy use and renewable energy sources as economic development priorities,

- in the long term, increasing the share of renewable energy sources in final energy consumption up to 2030 and beyond.

In order to achieve these renewable energy source objectives, the Slovenian Government will ensure an adequate support environment for:

- energy rehabilitation of existing buildings, mainly in the public sector, and construction of active buildings representing what are technologically advanced structures,

- replacing heating oil with wood biomass and other renewable energy sources,

- district heating systems based on renewable energy sources and heat and power cogeneration,

- replacing electricity for producing sanitary hot water with solar energy and other renewable energy sources,

- generation of electricity from renewable energy sources,

- increasing the share of railway and public transport,

- introducing biofuels and other renewable energy sources in transport and farming and introducing electric vehicles,

- developing distribution networks for incorporating dispersed electricity generation, including the development of active/smart networks,

- developing industrial production of technologies for efficient energy use and renewable energy sources.

The key orientations are as follows:

- developing markets for sustainably obtained fuels (wood biomass, biogas etc.), high-efficiency technologies and high-quality services and ensuring financial incentives for such development;

- establishing renewable energy sources and efficient energy use (green energy technology) as a priority for Slovenia's development strategy, and establishing a close association between developing renewable energy sources and economic development;

- ensuring the leading role of the public sector in implementing efficient energy use and renewable energy sources;

- strengthening education and training in the area of energy management;

- ensuring greater public administration efficiency in those areas that affect the exploitation of renewable energy sources;

- consistent implementation of planned measures in the area of renewable energy sources in adopted programme documents.

The key elements of the support environment up to 2020 are as follows:

- economic incentives (continuing the established scheme of support for generation of electricity from renewable sources and high-efficiency cogeneration of heat and power, with the preparation of a similar scheme for heat), direct financial stimuli and appropriate tax policy;

- regulations for methods of heating and cooling (introducing a compulsory share of renewable sources of energy in district heating systems, updating regulations for the use of renewable energy sources in buildings);

- improved planning: stepped up preparation of the expert basis for the physical placement of renewable energy sources on the national and local level; checking the possibility for improving administrative procedures for carrying out investments and checking the effectiveness of procedures through demonstration projects;

- a system of quality management in planning and implementing projects and of biofuel quality;

- incentives for developing financial markets and a range of appropriate financial mechanisms;

- support for establishing a wood biomass market;

- measures in the areas of education and training, research and development and promoting the development of industrial production for renewable sources;

- systematic promotion of best practices of efficient energy use and renewable energy sources, and ensuring high-quality information for evaluations involved in all decisions relating to the use of RES.

A range of measures to promote renewable energy sources is already being implemented as part of the adopted programme documents, especially under the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (hereinafter: OP DETI), the Operational Programme for Reducing Greenhouse Gas Emissions up to 2012 (OP RGGE) and the Action Plan for Green Public Procurement (AP GPP).

Implicit in meeting the set target of a 25% share of renewable energy sources in gross final energy consumption is a precondition of reining in the growth of energy consumption, which is guided in part by the national energy policy in the area of transport and also by European transport policy (impact on transit traffic) and national development policy.

2 Expected final energy consumption 2010-2020

Within the National Energy Programme, projections were made for energy consumption and supply, taking into account various scenarios. The development scenarios for energy are based on the following guidelines:

- the development challenges that Slovenia's energy sector faces, including analysis of external circumstances: international energy prices (oil, electricity, solid fuel, natural gas), the prices of emission coupons, reliability of supply, economic development in Slovenia (added value and physical product, development of energy-intensive sectors), global technological development and transport policy;

- alternative strategic trajectories for energy embedded in the broader development policy, Slovenia's international obligations, energy policy in the EU – adopted and being drafted;

- the state of the energy sector, projects being implemented and alternatives, based on projects being drawn up and analysis of the possibilities for projects in the area of energy consumption and supply;

- analysis of the response of energy sector actors on external factors and energy policy measures in various scenarios;

- quantitative assessment of the effects of these factors relative to the targets set.

The NEP incorporates analysis of two energy policy strategies – reference and intensive – to promote efficient energy use and renewable energy sources. The reference strategy assumes a continuation of the current measures and a strengthening of their implementation with the aim of meeting the EU requirements, while the intensive strategy assumes a more active Slovenian policy in the areas of efficient energy use and renewable energy sources in order to step up the transition to a low-carbon society, meaning that in the intensive scenario Slovenia will exceed the requirements to which it is committed within the EU. The analysis points to the advantages of intensive promotion of efficient energy use and renewable energy sources, in terms of energy, the environment and also the economy. An even greater contribution will be made towards improving the competitiveness of the economy by promoting measures for efficient energy use and renewable energy sources, if their promotion is classed as a priority in the national development strategy.

Added value and physical product are provided in the form of medium value (highest probability) and possible range, while transport policy is provided in the form of two scenarios, sustainable transport policy and unsustainable transport policy. Slovenia's transport policy will affect the scope of transport works and the choice of means of transport, while Slovenian and European policies (transport policies etc., further EU enlargement, European goods market, taxing energy products) will affect the volume of transit through Slovenia and the purchasing of motor fuels in Slovenia and thereby the associated final energy consumption. Other external factors are presented in just one scenario, and projections of international prices are based on international analyses (IEA, World Energy Outlook 2009 etc.).

The strategies of exploiting renewable energy sources (RES) and efficient energy use (EEU) also include local electricity generation from renewable sources and combined heat and

power generation. The strategies for promoting EEU and RES were formulated through analysis of the current situation, the technical, economic and market potential for exploiting EEU and RES in Slovenia and the expected advances of technology in the period up to 2030 relative to the planned incentives for developing EEU and RES.

Drawing up the energy strategy and the associated balance sheet has involved use of the methodology of integrated resource planning, which addresses equally measures on both the energy consumption and supply sides. The methodology of integrated resource planning as a reference for drawing up strategic documents is also required by the Energy Act (Official Gazette of the Republic of Slovenia, No. 27/07, 22/10), which requires the prioritising of EEU and exploitation of RES over supply from non-renewable energy sources. In analysing the strategies account has been taken of the objectives of reliability, competitiveness and environmental targets, with emphasis on preventing climate change. The formulation of projections of energy use and estimates of the effects in support of decision-making on energy and climate strategies in Slovenia has involved use of a system of models, in which the main tool is a reference energy and environmental model named REES-SLO, which has been produced in the MESAP environment, itself a technologically oriented model. The model is calibrated on statistical data and linked to an indicator system of statistical indicators and indicators of advanced countries in order to monitor policies in the EU and Slovenia in accordance with the international reporting obligations. It enables comparisons among the methodologies of SORS, EUROSTAT/OECD, the EEA and UNFCCC and in accordance with Directive 2009/28/EC, Directive 2001/77/EC and Directive 2006/32/EC.

For the National Energy Programme, of which the NREAP is a constituent part, an integrated environmental impact assessment has been carried out in accordance with the Environmental Protection Act, which transposes Directive 2001/42/EC on environmental impact assessments for plans and programmes. It has been found that the NREAP could probably have a major impact on protected areas, natural assets, biodiversity and the objectives of a good state of water.

By 2020, gross final energy consumption in Slovenia for heating and cooling, electricity and transport, taking into account the effects of energy efficiency measures, is expected to fall in the reference strategy by 3.2% relative to the level of 2008. Gross final energy consumption excluding consumption in transport will be 2.4% lower in 2020 compared to 2008. Final energy consumption in transport will 4.9% lower in 2020 compared to 2008 taking into account the implementation of a consistent sustainable transport policy and a modest increase in transit traffic. Achieving lower final energy consumption in transport is vital to meeting the targets, since 10% of the fuel used in transport is from RES, and with an increase in the share of transport in gross final consumption, Slovenia is way off the target of 25%. Final energy consumption in transport increased by 32% in 2007 and 2008. In the other sectors, from 2008 to 2020 the greatest reduction in energy consumption is expected in other use (service activities and agriculture), by 11%, followed by households with a 9% drop, while consumption should increase in industry by 3.8%. Smaller increases in own energy consumption are also expected in transformations owing to the generation of electricity in pumped storage power stations. In 2020 transport will account for a 39% share in final energy consumption, the share of industry will rise to 30% and services and households will fall to 11% and 21% respectively.

Table 1 Expected gross final energy consumption in Slovenia for heating and cooling, electricity and transport in the period 2010-2020 taking into account the effects of EEU measures

[ktoe]	2005 baseline year	2010 reference scenario	add. energy effic.	2011 reference scenario	add. energy effic.	2012 reference scenario	add. energy effic.	2013 reference scenario	add. energy effic.	2014 reference scenario	add. energy effic.
1. Heating and cooling (1)	2,291		1,996		2,008		2,019		2,031		2,043
2. Electricity (2)	1,272		1,196		1,216		1,235		1,254		1,274
3. Transport pursuant to Article 3(4)a (3)	1,526		1,735		1,756		1,777		1,798		1,819
4. Gross final energy consumption (4)	5,090		4,927		4,979		5,031		5,083		5,135

[ktoe]	2015 reference scenario	add. energy effic.	2016 reference scenario	add. energy effic.	2017 reference scenario	add. energy effic.	2018 reference scenario	add. energy effic.	2019 reference scenario	add. energy effic.	2020 reference scenario	add. energy effic.
1. Heating and cooling (1)		2,054		2,049		2,044		2,039		2,034		2,029
2. Electricity (2)		1,293		1,303		1,312		1,322		1,332		1,342
3. Transport pursuant to Article 3(4)a (3)		1,839		1,862		1,885		1,907		1,930		1,953
4. Gross final energy consumption (4)		5,186		5,214		5,241		5,269		5,296		5,323

(1) Final consumption of all energy products except electricity for purposes that do not include transport, plus heat for own consumption in power stations and heat stations and heat losses in networks (points 2 “Own use by plant” and 11 “Transmission and distribution losses” in Regulation (EC) No. 1099/08 (pp. 23-24)).
(2) Gross final electricity consumption is gross national production of electricity, including own generation, plus imports minus exports.
(3) Final energy consumption in transport, as defined in Article 3(4)(a) of Directive 2009/28/EC. Electricity from renewable sources in road transport is multiplied by a factor of 2.5, as set out in Article 3(4)(c) of Directive 2009/28/EC.
(4) As defined in Article (2)(f) of Directive 2009/28/EC. This includes final energy consumption plus network losses and own use of heat and electricity in power and heat stations (note: does not include electricity consumption for pumped storage hydroelectric stations or conversion in electric heaters or heat pumps in heat stations for district heating).

3 Targets and trajectories

3.1 National targets

Slovenia set itself a range of targets for increasing the share of RES in energy consumption back in 2004 in the Resolution on the National Energy Programme (ReNEP). As part of the EU climate and energy package, new targets have been agreed upon to promote renewable energy sources. Slovenia's target for 2020 is a 25-percent share of RES in final energy consumption and at least a 10-percent share of RES in transport.

Table 2 Share of RES in gross final energy consumption in 2005 and target share for RES in 2020

A. Share of energy from renewable sources in gross final energy consumption in 2005	[%]	16.2
B. Target for energy from renewable sources in gross final energy consumption for 2020	[%]	25.0
C. Expected total adapted gross final energy consumption for 2020	[ktoe]	5,323
D. Expected quantity of energy from renewable sources that meets the target for 2020	[ktoe]	1,331

3.2 Sectoral targets and trajectories

In accordance with Directive 2009/28/EC, the measures in the NREAP are formulated on the basis of targets regarding the share of energy from renewable sources for 2020 in the following sectors:

(a) heating and cooling,

(b) electricity,

(c) transport.

The total value of all three sectoral targets, including the planned use of flexibility mechanisms, must be at least equal to the expected quantity of energy from renewable sources, the share of which for Slovenia in 2020 is equal to 25%.

Moreover the target for transport must fulfil the requirements of Article 3(4) of Directive 2009/28/EC regarding the 10-percent share of RES in transport, whereby the calculation for fulfilling this target differs from the calculation for the contribution of transport to Slovenia's overall national target.

Sectoral targets for the share of RES in gross final energy consumption and starting points for formulating sectoral targets:

(a) heating and cooling: the sectoral share of RES amounted to 19.47% in the reference year of 2005 and 20% in 2008. In the area of heat supply, the long-term trend of improving the share of RES is positive. Out of all the targets in the ReNEP for RES, only in this sector did Slovenia achieve and even exceed the set target for 2010 back in 2007[11]. This sector shows the greatest potential for improving the share of RES, and specifically for reducing

[1] The targets in the RE NEP related exclusively to the use of energy for heat, and the use of energy in industrial processes was deducted

energy consumption and increasing RES. Drastic changes are anticipated in the development of buildings, along with more stringent regulations on the energy efficiency of buildings, and even greater savings can only be achieved by removing obstacles to building renovation at all levels. There is a similar situation regarding the potentials for RES in heating and cooling in district heating systems and in buildings. The majority of instruments have already been pledged. The sectoral target has been set at a level of 30.8%, and with additional measures in the area of EEU it would even be possible to increase the target for this sector.

(b) electricity: in the reference year of 2005, a total of 28.48% of electricity was generated from RES, and in 2008 the share was 29.5%. Improvements are tied to increasing the generation of electricity from water energy and wood biomass, and reducing final electricity consumption. At first it appeared that in terms of fulfilling the target of Directive 2001/77/EC Slovenia would not succeed, since generation of electricity from RES was rising too slowly relative to the very rapid growth in electricity consumption, which was partly a consequence of non-implementation of EEU measures. Markedly higher generation of electricity from renewable sources in recent years, tied especially to the more favourable hydrology and greater exploitation of wood biomass, and the economic crisis, which contributed to a turnaround in the trend of electricity consumption, have helped create the conditions where Slovenia is once again well placed to meet the 2010 target. In this sector the target share of RES in final energy consumption will be set at a level of 39.3%, which is exceptionally ambitious and will require both an increase in electricity generation from renewable sources and a reining in of growth in electricity consumption.

(c) in transport, which in 2008 accounted for 39% of final energy consumption, the share of RES still amounted in the reference year of 2005 to just 0.27% and in 2008 to just 1.22%. Alongside the low value in the starting point and the very rapid growth in energy consumption in transport over recent years (18% growth in consumption in 2008), the target for 2020 is set at the minimal required value of 10%. There is little scope for obtaining raw materials in Slovenia, pressure on the cost of food production owing to competition for the use of arable land must be prevented, and sustainable criteria for biofuels must be ensured. This sectoral target will be verified once again upon a breakthrough of second-generation biofuels.

Table 3 Target shares of RES for 2020, forecast shares of RES and lowest required shares of RES for the period 2010-2020 for heating and cooling, electricity and transport

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
RES – Heating and cooling	20.0	22.3	23.3	24.4	25.4	26.3	27.3	28.0	28.7	29.4	30.1	30.8
RES – Electricity	28.5	32.4	32.3	32.3	33.7	33.5	35.4	36.0	36.1	38.1	38.6	39.3
RES – Transport	0.3	2.6	2.8	3.1	3.5	4.0	4.7	5.6	6.6	7.7	9.0	10.5
Share of RES	16.2	17.7	18.2	18.7	19.5	20.1	21.2	21.8	22.4	23.6	24.3	25.3
- from cooperation mechanism												
- surplus for cooperation mechanism												

	2011-2012 S_{2005} + 20 % (S_{2020} — S_{2005})	2013-2014 S_{2005} + 30 % (S_{2020} — S_{2005})	2015-2016 S_{2005} + 45 % (S_{2020} — S_{2005})	2017-2018 S_{2005} + 65 % (S_{2020} — S_{2005})	2020 S_{2020}
Lowest share of RES [%]	17.8	18.7	20.0	21.8	25
Lowest share of RES [ktoe]	921	972	1,049	1,152	1,331

Table 4a Gross final energy consumption from renewable sources for heating and cooling, electricity and transport in the period 2010-2020

[ktoe]	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(A) Expected gross final energy consumption from RES for heating and cooling	465	445	469	492	515	538	561	574	587	600	612	625
(B) Expected gross final energy consumption from RES for electricity	362	388	392	399	422	426	458	469	474	504	514	527
(C) Expected final energy consumption from RES in transport	0	40	43	48	56	66	79	96	115	137	163	192
(D) Expected overall final energy consumption from RES	828	874	904	939	993	1,030	1,099	1,139	1,176	1,241	1,289	1,344
(E) Expected transfer of RES to other Member States	0	0	0	0	0	0	0	0	0	0	0	0
(F) Expected transfer of RES from other Member States and third countries	0	0	0	0	0	0	0	0	0	0	0	0
(G) Expected adjusted consumption of RES (D) — (E) + (F)	828	874	904	939	993	1,030	1,099	1,139	1,176	1,241	1,289	1,344

Table 4b Overview of final energy consumption from renewable sources in transport 2010-2020

[ktoe]	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(C) Expected consumption from RES in transport	3.9	45.9	48.9	54.1	62.1	72.7	86.2	103.1	123.1	146.3	172.8	202.7
(H) Expected consumption of electricity from RES in road transport	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.5	0.7	0.9	1.1
(I) Expected use of biofuels from waste, residues and cellulose in transport	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(J) Expected contribution of RES in transport (target RES-Transport)	3.9	45.9	48.9	54.2	62.2	72.9	86.4	103.5	123.9	147.4	174.2	204.3

4 Measures for achieving the targets

4.1 Policies and measures to promote the use of energy from renewable sources

The policies and measures to promote renewable energy sources include both regulatory and financial measures, as well as awareness-raising measures. The policies and measures to promote RES (current and planned) are defined in respect of:

- the anticipated results of modified behaviour, installed capacities (MW, t/year), energy produced (ktoe) and similar quantified goals,

- target persons (investors, end users, public administration, planners, architects, installation contractors etc.) or target activities (production of biofuels, use of animal manure to generate energy, biodegradable waste management),

- duration of measure and start of implementation.

Existing and additional policies and measures

Table 5a provides an overview of the existing policies and measures to promote RES. Table 5b shows additional policies and measures to promote increased use of RES, together with their main features.

Table 5a Overview of existing policies and measures

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
1	Support scheme for electricity generated from RES and in high-efficiency cogeneration of heat and power: Energy Act (EZ-UPB2, 27/07 and 22/10); Decree on support for electricity generated from renewable energy sources (Off. Gaz. RS, No. 37/09, 53/09, 68/09, 76/09, 17/10); Decree on support for electricity generated from high-efficiency cogeneration of heat and power (Off. Gaz. RS, No. 37/09, 53/09, 68/09, 76/09, 17/10); Methodology for determining reference consts of electricity generated from renewable energy sources, Rules for the operation of the Support Centre (Off. Gaz. RS, No. 86/09), Methodology for determining reference costs of high-efficiency cogeneration (ME Decision - No. 360-82/09-1); Decree on the rules for preparing forecasts of the position of production facilities operating on renewable energy sources and with high-efficiency cogeneration in the electricity market (Off. Gaz. RS, No. 83/09), For new producers, this scheme entirely replaced the previous support scheme for qualified electricity producers, which was in force since 2002.	Financial incentives, operating subsidies in the form of fixed purchase prices or premiums / Ministry of the Economy, Support Centre, Slovenian Energy Agency	Increased generation of electricity from RES in dispersed production	Investors, building owners, financial service providers	From 2002
2	Certificate of Origin. Decree on issuing declarations for production plants and certificates of origin for electricity (Off. Gaz. RS, No. 8/09); Decree on compulsory measurements at production plants that receive certificates of origin and support for generated electricity (Off. Gaz. RS, No. 21/09, 33/10)	Certificates of Origin / Ministry of the Economy; Slovenian Energy Agency	Transparency of electricity generation from RES	Owners of production plants, energy users	From 2009
3	Rules on efficient use of energy in buildings (Off. Gaz. RS, No. 93 /08 and 47 /09)	Regulations on energy efficiency in buildings / Ministry of the Environment and Spatial Planning	Minimum 25% share of capacities of heating systems using RES in new buildings and in major building renovations	Buildings in all sectors	From 2008
4	Energy rehabilitation and sustainable construction of buildings as part of the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (OP DETI), construction of low-energy and passive buildings in the public sector, use of modern technologies for heating, ventilation and air-conditioning of buildings and environment-friendly decentralised systems for energy supply, with emphasis on renewable energy sources (installation of wood biomass boilers, solar heating systems, installation of heat pumps for heating and hot water); - energy rehabilitation of existing buildings in the public sector; Public tender: Energy rehabilitation of buildings of legal persons under public law in the field of healthcare, Off. Gaz. RS, No. 08/10 - construction of low-energy and passive buildings (Eco Fund tenders) - - public tender for cofinancing individual systems of wood biomass heating for 2009 and 2010	Financial incentives as part of cohesion policy / subsidies for investments under cohesion policy / Ministry of the Economy, Eco Fund, Slovenian Government Office for Local Self-Government and Regional Policy	Additional production of heat from RES: 122 ktoe/year Additional production of electricity from RES: 8 ktoe/year Emission reduction: 25.8 kt CO2/year	Mainly public sector Commercial companies and sole traders	2009-2013
5	Innovative systems for local energy supply as part of the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (OP DETI), priority	Financial incentives as part of cohesion	Additional production of heat from RES: 416	Commercial companies and sole traders	2009-2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	orientations, sustainable energy. - public tender for cofinancing wood biomass district heating for 2009 2010 and 2011 - promoting systems of district heating using geothermal energy (tender being drafted)	policy, subsidies for district heating systems using wood biomass and geothermal energy / Ministry of the Economy, Eco Fund, Slovenian Government Office for Local Self-Government and Regional Policy	ktoe/year Additional production of electricity from RES: 122 ktoe/year Emission reduction: 171 kt CO2/year		
6	Demonstration and model projects, and programmes of energy advice, information and training as part of the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (OP DETI), priority orientations, sustainable energy	Financial incentives for demonstration projects, advice, information and training as part of cohesion policy / Ministry of the Economy, Eco Fund, Slovenian Government Office for Local Self-Government and Regional Policy, Ministry of the Environment and Spatial Planning	Incorporating RES systems and EEU mechanisms into the design and planning of energy systems and buildings reinforcing capacities for implementing measures of EEU	General public; investors in households, public sector, SMEs, the commercial sector; contractors, designers, architects, public administration, plant and system suppliers, trade chambers, advisers, energy suppliers, financial service providers	2011-2013
7	Promoting the use of solar collectors in households (Eco Fund tenders)	Financial incentives, investment subsidies / Eco Fund	Additional heat production through solar collectors	Households	From 1988
8	Promoting wood biomass boilers in households (Eco Fund tenders)	Financial incentives, investment subsidies / Eco Fund	Increased heat production from wood biomass	Households	From 1988
9	Cofinancing construction of low-energy and passive buildings (Eco Fund tenders)	Financial incentives, investment subsidies – Programme of cofinancing construction of passive and low-energy buildings / Eco Fund	Investment in passive and low-energy buildings	Households	From 2009
10	Programme of information and awareness-raising about renewable energy sources	Programme of cofinancing programmes of information and	Modifying behavioural patterns of consumption and use of RES and	Organisations, the public, school pupils, children	2010-2020

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
		awareness-raising / Ministry of the Economy	consequently EEU		
11	Citizens' Energy Advice (EnSVet)	Advice, information, awareness-raising / Ministry of the Economy, Eco Fund	Growth in rehabilitation of buildings (EEU) and increased use of RES technologies for heating buildings	The public	2010-2020
12	Environmental tax for polluting the air with CO2 emissions	Environmental taxes, Ministry of the Environment and Spatial Planning	RES and EEU technologies become price-competitive with other technologies	All sectors of end use of fossil fuels	From 1998
13	Rural Development Programme 2007-2013 / Measure 121 – Modernising agricultural holdings; Public tender for allocating funds relating to Measure 121	CAP measure under the RDP[2] - subsidies / Ministry of Agriculture, Forestry and Food	Investments in EEU and RES for the needs of agricultural holdings Production of biogas using organic waste	Agricultural holdings	2007-2013
14	Rural Development Programme 2007-2013 / Measure 122 – Increasing the economic value of forests	CAP measure under the RDP – Public tender for allocating funds relating to Measure 122 / Ministry of Agriculture, Forestry and Food	Investments in modern machinery and equipment for forest work (obtaining wood biomass, investments in construction and reconstruction of forest roads and skids	Owners or co-owners of private forests, associations of legal and natural person forest owners and municipalities in possession of forests	2007-2013
15	Rural Development Programme 2007-2013 / Measure 123 – Added value for agricultural and forest products	CAP measure under the RDP – Public tender for allocating funds relating to Measure 123 / Ministry of Agriculture, Forestry and Food	Investment in equipment for obtaining energy from renewable sources for own needs	Micro, small and medium-sized enterprises registered for food production activities and large enterprises in this sector, if they employ less than 750 workers or the annual income of the enterprise is less than EUR 200 million, members of	2007-2013

[2] RDP – Rural Development Programme 2007-2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
				agricultural households pursuing the business of processing agricultural products in accordance with the Agriculture Act, Alpine pastures in private ownership where milk is processed, members of agricultural holdings on farms pursuing the business of processing wood in accordance with the valid legislation.	
16	Rural Development Programme 2007-2013 / Measure 311 – Diversification into non-agricultural activities	CAP measure under the RDP – Public tender for allocating funds relating to Measure 311 / Ministry of Agriculture, Forestry and Food	Obtaining energy from renewable sources for sale on farms Investment aimed at production of biogas using organic waste Investment aimed at processing biomass for RES Investment aimed at infrastructure for RES from biomass and other RES	Legal and natural persons that upon application are registered as sole traders, commercial companies, institutes, cooperatives or as farms with supplementary activities that do not exceed the criteria for micro companies and that are established and pursue activities outside settlements classed as towns The operator of the supplementary activities on the farm or legal representative of the sole trader ... must be a member of the agricultural household	2007-2013
17	Rural Development Programme 2007-2013 / Measure 312 – Support for establishing and developing microcompanies	CAP measure under the RDP – Public tender for allocating	Obtaining energy from renewable sources for sale	Legal and natural persons that upon application are	2007-2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
		funds relating to Measure 312 / Ministry of Agriculture, Forestry and Food	Investment aimed at processing biomass for RES, Investment aimed at infrastructure for RES from biomass and other RES	registered as sole traders, commercial companies, institutes or cooperatives that do not exceed the criteria for micro companies and that are established and pursue activities outside settlements classed as towns	
18.	Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07)	Government decree, prescribed obligatory share of biofuels / Ministry of the Environment and Spatial Planning	Share of biofuels in the market: -2007 at least 2% -2008 at least 3% -2009 at least 4% -2010 at least 5% -2011 at least 5.5% -2012 at least 6% -2013 at least 6.5% -2014 at least 7% -2015 at least 7.5%	Distributors that own or manage petrol stations	1.11.2007-31.12.2015
19.	The Excise Act (Off. Gaz. RS, No. 35/10 – official consolidated text) provides that biofuels used as motor fuels are exempted from the payment of excise duties, if they are used in their pure form. If biofuels are mixed with fossil fuels, an exemption may be claimed in proportion to the added share – up to a maximum of 5%, or more if it is new standardised fuel. This advantage is not pronounced in agriculture and forestry, where users are entitled to a 70% refund on excise paid for motor fuel.	Taxes and duties / Ministry of Finance – Customs Administration of the Republic of Slovenia (supervision)	Increased consumption of biofuels	Distributors that own or manage petrol stations	2007 -
20.	Act Amending the Motor Vehicle Tax Act (Off. Gaz. RS, No. 9/10)	Taxes and duties, lower levels of tax on motor vehicles with lower CO2 emissions / Ministry of Finance	Taxes and duties, lower levels of tax on motor vehicles with lower CO2 emissions (consequently lower final prices for motor vehicles with lower CO2 emissions and higher prices for those with higher emissions) Increased share of motor vehicles sold with lower CO2 emissions	Buyers of motor vehicles	2010 -

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
21	Decree on the implementation of direct payments in agriculture (Off. Gaz. RS, No. 99/06, 45/08) – promoting the cultivation of field crops for production of biofuels	Direct payments for producing energy plants / Ministry of Agriculture, Forestry and Food	Increased production of energy plants	Owners of agricultural land	Financial incentives were concluded in 2009 in line with Commission Regulation 73/09
22	Decree on green public procurement – proposal based on the Public Procurement Act and the Public Procurement in Water, Energy, Transport and Postal Services Act (Off. Gaz. RS, No. 128/06, 16/08 and 34/08)	Public sector incentives for purchasing and using cleaner motor vehicles / Ministry of Finance	Public sector vehicle fleet transformed over time to cleaner vehicles	Entire public sector, which is bound to purchase motor vehicles via public procurement	2010 -
23	Operational Programme for Reducing Greenhouse Gas Emissions up to 2012 – transport sector	Activities to reduce CO2 emissions in transport / Slovenian Government – Ministry of Transport	Reduction of emissions in the amount of 177 kt CO2 equiv., from 2008-2012, by increasing the share of biofuels, reducing emissions from private vehicles, increasing the share of railways in goods transport and increasing public passenger transport	Distributors, sellers and buyers of motor vehicles, Ministry of Transport, providers of goods and passenger transport	2009 - 2012
24	Incentives for local communities in sustainable transport development – testing the use of biodiesel as a motor fuel	CIVITAS II -MOBILIS, pilot project / Ljubljana Public Transport	Confirm the suitability and benefit of using biodiesel as a public transport fuel	Public transport	2005 -

Table 5b Overview of additional policies and measures

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
HEATING AND COOLING					
DISTRICT HEATING					
25	Support scheme for generating heat from RES for heating Pursuant to the amended Energy Act (Off. Gaz. RS, No. 27/07 – official consolidated text, 70/08 and 22/10) and implementing regulations issued on the basis thereof, the Ministry of the Economy will introduce a system of feed-in incentives to hook up/produce heat from RES and will define the possible financial sources for such incentives.	Operating financial incentives / Ministry of the Economy	Increasing the share of heat generated from RES in district heating systems and reducing the share of heat generated from fossil fuels	District heating systems, heating systems in all sectors (households, service activities, industry)	2014-2030
26	Obligatory shares of RES in district heating systems In accordance with the aims of Directive 2009/28/EC, in its transposition into Slovenian legislation the Ministry of the Economy will propose such amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10), that will ensure: a) that the Slovenian Government will have the jurisdiction to determine an obligatory 20% minimum share of heat generated from RES in district heating systems in 2020. The legislative changes will also enable transfers of surplus shares between district heating systems, with the aim of achieving the obligatory shares of RES; b) that the Slovenian Government will have jurisdiction to determine a 60% further share of heat generated in district heating systems either from RES or in combined heat and power generation from any source or in any combination of these two methods of heat generation. (Share_RES >=20 %; Share_RES + Share_CHP > = 80 %); c) that it will have a legal basis for sanctions: fines (penalties) or revocation of concession or enabling the connection (allocation of concession) to a new producer of heat from renewable sources to existing district heating systems, if the prescribed shares of heat generated from renewable sources or in cogeneration of heat and power in district heating systems are not attained; d) it will bring into its legal order a system for certification for heat generation from RES and CHP; e) together with the Slovenian Energy Agency (Act Determining the Methodology for Determining the General Conditions for Supply and Offtake of Heat from the Distribution Network, Off. Gaz. RS, No. 74/05) supplementary conditions will be drawn up for the supply and offtake of heat from the heat distribution network, such that in the event of a district heating system not fulfilling the conditions given in the first two indents (a and b) of the measure, the network system operator cannot refuse the transfer of existing	System of green certificates (minimum standards, certification of heat from RES and CHP, quota system, system of quota trading, waiving obligatory connection to grid for consumers using RES / Ministry of the Economy (Slovenian Energy Agency)	Increasing the share of RES in district heating	District heating	2011-

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	consumers in the district heating system or the realisation of new potential of a consumer to switch to individual heating from RES.				
BUILDINGS					
27	Introducing almost zero-energy buildings The Ministry of the Environment, in cooperation with the Ministry of the Economy, will introduce amendments to the Rules on efficient energy use in buildings, Off. Gaz. RS, No. 93/08, 47/09), issued pursuant to Article 10(2) of the Construction Act (Off. Gaz. RS, No. 102/04 — official consolidated text, 14/05-corr., 92/05-ZJC-B, 111/05 — decision of the Constitutional Court, 93/05-ZVMS, 120/06 — decision of the Constitutional Court, 126/07 and 108/09), which will gradually tighten up the obligation to use RES by 2020 in new and existing buildings. The Rules will set out the obligatory gradual transition from fossil fuels to RES in heating all kinds of buildings, including connection to district heating systems operating on RES. The following guidelines will be implemented as part of the rules in order to promote RES: - transposition of the revised version of the directive on the energy performance of buildings into Slovenian legislation, such that from 2020 all new and renovated buildings will be almost zero-energy, and from 2018 all public buildings will be almost zero-energy - exclusive use of RES or CHP or district heating in all new buildings with offtake of more than 250 kW from 2012; - restrictions on the use of ELHO and electricity in all new and renovated heating systems from 2015, except in systems with heat pumps.	Regulations on energy performance of buildings / Ministry of the Environment and Spatial Planning (Ministry of the Economy)	Increased share of RES in buildings	Owners and managers of buildings and investors in buildings in all sectors: residential and commercial buildings	2011-2020
28	Financial mechanisms for energy services with RES In accordance with Directive 2006/32/EC on energy end-use efficiency and energy services, through amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) and implementing acts issued on its basis, the Ministry of the Economy will introduce financial instruments that are established to extend the promotion of energy saving to the area of district heating and the connection of RES to existing heating energy product networks, and for heating systems that use RES: - financing from third parties, - contractual guarantees of energy savings, - external energy supply.	Incentives for the energy services market / Ministry of the Economy, Ministry of Finance, Ministry of Agriculture, Forestry and Food	Increased investment in RES through a regulatory framework for energy services using RES	District heating, owners and managers of heating systems in all sectors, agriculture as a user of energy services, energy companies, ESCO, equipment providers, financial institutions as providers of energy services	2011-2030
	Amendments will also be required for the Local Finances Act (Off. Gaz. RS, No. 123/06, 101/07, Constitutional Court Decision: U-I-24/07-66, 57/08), the Public Finances Act (Off. Gaz. RS, No. 79/99, 124/00, 79/01, 30/02, 56/02-ZJU, 110/02-ZDT-B, 127/06-ZJZP, 14/07-ZSPDPO, 109/08, 49/09) and the Public-Private Partnership Act (Off. Gaz. RS, No. 127/06).				

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	In cooperation with the Ministry of Finance, the Ministry of Agriculture will draw up the regulatory framework that will enable the introduction of energy contracting into agriculture.				
29	Promoting RES as part of real estate taxation Within the new system of property tax, account is taken of the energy performance of buildings as a criterion for possible relief.	Taxes and tax relief / Ministry of Finance	Promoting energy efficient construction and renovation of buildings also through the instrument of real estate tax	Households and service activities, to a lesser extent industry	2011-
30	Improvements to housing legislation The Ministry of the Environment and Spatial Planning will draft amendments to legislation in the area of housing aimed at facilitating the greater incorporation of RES in the renovation of apartment buildings, governing specifically: - a reduction in the necessary consent of owners in apartment buildings to carry out energy renovation and for installing systems for obtaining energy from renewable sources in common parts of buildings; - using reserve funds as an instrument for securing loans for the purposes of energy renovation of buildings.	Improving decision-making procedures in apartment buildings Ministry of the Environment and Spatial Planning	Increased investment in RES in apartment buildings	Owners, investors and managers of buildings in the housing sector	2012-
PLANNING SETTLEMENTS AND MUNICIPALITIES					
31	Urban planning guidelines for planning systems using RES in the built environment In cooperation with the Ministry of the Economy, the Ministry of the Environment and Spatial Planning will draw up and implement, in accordance with Article 14(5) of Directive 2009/28/EC, urban planning technical guidelines for the placement of equipment and systems for producing electricity, heating and cooling using RES as energy products. The urban planning technical guidelines will be used by local communities and spatial planners in the planning of settlements.	Urban planning guidelines / Ministry of the Environment and Spatial Planning, Ministry of the Economy	Promoting the use of renewable sources in settlement areas	Local communities, spatial planners, district heating system designers	2012
32	Promoting RES in local energy concepts The Ministry of the Economy will draft amendments to the Rules on the methodology and obligatory content of local energy concepts (Off. Gaz. RS, No. 74/09), such that the formulation of local energy concepts incorporates objectives related to the share of renewables used for heating and cooling. The rules will require municipalities to overhaul their already formulated local energy concepts (LEC) in line with the new targets. The deadline for revising and formulating LECs will be 2015. Within their LECs, municipalities will indicate the target shares of RES in the area of the individual municipality.	Regulations on planning RES on the local level, voluntary municipality targets / Ministry of the Economy, municipalities	Planning RES on the municipality level and establishing voluntary targets for RES in municipalities	Actors in municipalities	2011, 2015
33	Energy efficient spatial planning	Regulations /	Promoting the use of	Municipality planners	2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	The Ministry of the Environment and Spatial Planning will draft amendments to spatial and construction legislation so as to enable improvements to energy efficiency and the use of RES through integrated planning of buildings, neighbourhoods and settlements (new and upon renovation).	Ministry of the Environment and Spatial Planning	RES in planning settlements and buildings and concurrently promoting efficient energy use, greater quality of life and resistance to climate change		
PUBLIC SECTOR					
34	Promoting RES as part of green public procurement In regulations governing green public procurement, the Ministry of Finance will ensure that, in accordance with European Commission guidelines, in addition to efficient energy use, the use of RES will also be a criterion in public procurement. Amendments are being made to Annex 6 (Basic environmental requirements for construction and renovation of buildings and premises in the proposal) of the Decree on green public procurement.	Green public procurement / Ministry of Finance	Increased investment in integrated renovation of buildings in the public sector, including systems using RES and heating systems using RES	Owners, managers and investors in public sector buildings, Slovenian Public Real Estate Fund	2011-2020
35	System of energy management in the public sector In cooperation with the Ministry of the Economy, the Ministry of Public Administration will set up a system for renovating buildings in state ownership (the target being "zero-energy" buildings that use RES). The Ministry of Public Administration will prioritise reducing the costs of energy consumed in public buildings in managing state property. The Public Fund for Property Management (being established) will open a technical office for drawing up projects of energy renovation of public buildings, and it will have the following tasks and powers: - establishing a system of data collection on energy consumption in the public sector; - analysing collected data and producing periodic reports with proposals for optimising energy consumption; - producing annual plans for energy renovation of buildings in state ownership; - providing permanent technical assistance in drawing up investment documentation and in carrying out projects of integrated energy rehabilitation in the public sector and for non-profit housing organisations (advice, project tasks for construction design documentation, execution design, auditing of project documentation), and in line with this, improvement of the regulations on green public procurement; - overseeing projects that use public funds for building renovation; - setting up a system to ensure quality project implementation; - setting up and managing a centralised system of energy accounting for state-owned buildings and minimum obligatory content and procedures for energy accounting, and reporting on this; - establishing a system of energy management in public buildings along the lines of standard SIST EN 16001:2009;	A set of instruments for the public sector that comprises: advice, motivational mechanisms, regulations for energy management, investments and assuring quality implementation, training, demonstration projects / Ministry of Public Administration, Slovenian Public Property Fund (Ministry of the Economy)	Promoting the use of RES in state-owned property with the aim of ensuring 50% almost zero energy buildings by 2015 and 100% by 2018 among new and renovated buildings. Promoting public sector energy management for efficient use of RES. Quality assurance in all phases of preparing and carrying out investments in RES in the public sector. Carrying out demonstration projects to remove obstacles in procedures for		2011-2020

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	- producing a methodology for evaluating energy costs in the lifetime of a building; - designing projects to improve administrative procedures for RES projects in the public sector through demonstration projects; - formulating projects to improve administrative procedures for energy contracting in the public sector for systems using RES (or integrated building renovation that includes the use of RES) through demonstration projects; - carrying out demonstration projects to achieve an almost zero energy standard in building renovation, - educating personnel (spatial planning, architecture, municipal service, mechanical and electrical engineering etc.) with emphasis on new methods and technologies, training maintenance operatives and awareness-raising among public sector employees. In cooperation with the Ministry of the Economy, the Ministry of Public Administration will draw up: - criteria for en efficiency dividend; - training courses for building managers; - the establishing and management of a central database on public sector energy use based on the energy accounting of municipalities and the Public Fund. The established methodology will also be recommended for the management of municipality property.		carrying out public sector projects.		
GREEN TAXES AND STATE AID					
36	Excise duties on heating fuel In combination with other measures and with the pricing policy conducted by the Ministry of the Economy, the Ministry of Finance will conduct an excise policy that will ensure the competitiveness of biomass and biofuels in comparison with fossil energy products for heating.	Taxes and tax relief / Ministry of Finance, Ministry of the Economy	Through excise policy ensure that biomass and biofuel prices are competitive	Households and service activities, to a lesser extent industry	2012-2020
37	Green state aid The Slovenian Government Office for Local Self-Government and Regional Development will draft amendments to regulations governing the allocation of European funds: - horizontal inclusion of criteria for RES in buildings in tenders, so that all projects financed through European funds in the period up to 2013 will ensure heating based on RES, CHP or district heating insofar are this is technically feasible and economically justified; - to enable drawing on EU funds for energy savings for non-profit housing organisations and to ensure EU funds from the European Regional Development Fund (ERDF) for this purpose; - to enable the drawing of ERDF funds for at-risk population groups for the energy	Financial stimuli as part of cohesion policy – amendments / Slovenian Government Office for Local Self-Government and Regional Development	Increased investment in RES in buildings receiving financial support from European funding	Recipients of state aid from European funding (e.g. technology centres, business zones) Non-profit housing organisations, households classed as at-risk	2010-2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	rehabilitation of buildings.				
ELECTRICITY					
GENERATION FROM RES					
38	Proactive role of the state in identifying environmentally acceptable locations for exploiting HE potential As part of the water management plans adopted pursuant to Article 54 of the Waters Act (ZV-1) (Off. Gaz. RS, No. 67/02, 110/02-ZGO-1, 2/04-ZZdrI-A, 41/04-ZVO-1, 57/08), the Ministry of the Environment and Spatial Planning sets the conditions and restrictions for sustainable use of the energy potential of surface water, and if necessary for achieving the aims of the Waters Act, it envisages the formulation of a detailed plan of water management for this purpose. The Ministry of the Environment and Spatial Planning will ensure the processing of already received petitions for initiating the procedure for allocating water rights for sHE. The Ministry of the Economy provides a study of the costs and benefits of existing sHE, as a basis for sustainable criteria, wherein it takes account of environmental, social and economic impacts.	Support for spatial planning / Ministry of the Environment and Spatial Planning, Ministry of the Economy	Setting conditions and restrictions to be observed in planning use of the energy potential of surface water. Steering the preparation of investment towards environmentally acceptable locations.	Investors in RES	2012
39	Spatial planning of national importance The Ministry of the Environment and Spatial Planning is drafting an amendment to Article 3(2) of the Decree on the types of spatial planning of national significance (Off. Gaz. RS, No. 95/07, 102/08, 26/10) and an amendment to Annex 2 of the Decree on the introduction and application of uniform classification of structures and on the designation of structures of national importance (Off. Gaz. RS, No. 33/03, 78/05) such that spatial planning of national importance is ascribed in the area of energy infrastructure for electricity supply to wind generators that are part of a wind farm with a total power of at least 5 MW_e and are located in two or more municipalities, and spatial planning of national importance in the area of energy infrastructure for electricity supply is ascribed to combined heat and power stations operating on RES with a rated output of 30 MW_e and more.	Spatial planning, changes to jurisdiction / Ministry of the Environment and Spatial Planning	Physical location on the national level	Investor municipalities, municipal authorities and state authorities competent for spatial planning	2012
40	Accelerated preparation of spatial plans for energy infrastructure of national importance using RES Through public procurement, the Ministry of the Economy will select a professional organisation which, in the name and for the account of Slovenia, will set about drawing up an expert basis for preparing national spatial plans for physically locating RES power stations that have been recognised as of national importance for achieving the prescribed target of a 25% share of RES in final energy consumption and for which the investor is not yet known. After the formulation and adoption of the relevant basis, the	Spatial planning – national spatial plans / Ministry of the Environment and Spatial Planning	Greater number of national spatial plans for physically locating facilities of national importance in the area of RES	Investors	2013

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	Ministry of the Environment and Spatial Planning will begin, on behalf of the Slovenian Government, to manage the procedures for locating facilities in the physical environment. After adoption of a decree on the national spatial plan, the state will lease such energy locations, while the state input will be paid off or the state will participate in ownership of the project and will later sell it.				
41	Obligatory quotas for electricity from RES for suppliers The Ministry of the Economy will study the possibility, in accordance with Article 19 of the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) of drafting a regulation based on the NEP whereby the Slovenian Government would set the minimum share of renewable electricity consumption (29% in 2015 and 34% in 2020) that electricity suppliers must provide as part of their supplies in the current year to end users of electricity in Slovenia. The proportion of electricity consumed from RES is demonstrated to the Support Centre with certificates of origin. A system of quotas is used to supplement the existing support system. The prescribed fines in the event of not meeting the set quotas are used via the Support Centre to support electricity generated from RES.	Obligatory quotas for energy suppliers and the green certificates market / Ministry of the Economy	Ensuring consumption of renewable electricity by 2020 in a share of 38% relative to total electricity consumption	Energy suppliers, end users	2012
NETWORKS					
42	Planning the development of the distribution and transmission network The system operator of the distribution network (SODN) and system operator of the transmission network (SOTN) will: - draw up a plan to reinforce the distribution and transmission network in terms of projects being prepared as part of the NREAP and NEP (list of facilities is an annex to the NEP) and for other diffuse sources of electricity defined in other strategic plans (LEC, NEP) and incorporate the envisaged reinforcing of the distribution and transmission network into municipal and national location plans; - formulate criteria for determining points for connecting facilities for generating electricity from RES and CHP to the grid; - classify locations in terms of costs of connecting new facilities for generating electricity from RES, taking into account the existing and planned state of rated output of transformer substations (TSS).	Planning network development, simplifying procedures for connection to the grid, support for decision-making on investments in generation – classifying locations in terms of connection costs / System operator of the distribution network, system operator of the transmission network, Ministry of the Economy, Slovenian Energy Agency	Plan to connect the planned number of RES power stations to the grid. Transparency of procedure and foreseeable connection costs (in project planning phase).	SODN SOTN Investors in generation facilities, municipal and national authorities competent for granting consent.	2012
43	Technical criteria and procedures for connecting smaller units to the grid Supplementing the System Operating Instructions for the Electricity Distribution Network (SOIEDN) – Annex 4: Instructions for connecting and operating power stations with capacity of less than 10 MW_e, that will enable standardised connection (technical description and characteristics of the required equipment for the individual	Technical regulation / Ministry of the Economy, SODN	Acceleration, predictability, transparency and simplification of the procedure for connecting small	Investors in small electricity generating plants, companies distributing electricity, administrative units	2010

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	standardised connection): - determining minimum technical requirements for the smallest plants (standardised connection with minimum administrative and technical requirements up to 11kW); - ensuring simplified procedures for connection to the grid for smaller units; - for standardised connections, there is no requirement to apply for project conditions; - training competent persons to manage the simplified procedures.		plants to the electricity distribution network		
44	Tariffs for grid connection Amendment of the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) such that it provides a basis for prescribing regulated costs of connecting diffuse sources of electricity of less than 1 MW_e to the grid. Amending chapter IV.3.1 Criteria for sharing the costs of connection and technical adjustments and reinforcing of the grid and system facilities (Articles 137 to 140) in the draft SOIEDN through rules (annex to SOIEDN) that will standardise connection costs for diffuse sources of electricity of less than 1 MW_e (standardised factors of connections costs are determined) and thereby ensuring reasonable connection costs for producers in areas with lower population density.	Tariff system for connection costs / Ministry of the Economy, SODN	Ensuring transparency, non-discrimination and objectivity in charging for grid connection costs	Investors in electricity generation from RES and CHP SODN	2011
45	Checking the seriousness of investment intentions Expanding the guarantee on the part of the investor for carrying out the project (over 1 MW_e), as defined by the draft SOIEDN (in chapter IV.3.1 Criteria for sharing the costs of connection and technical adjustments and reinforcing of the grid and system facilities, in Article 140(2)), such that the reimbursement of costs of reinforcing the grid will be guaranteed even in the event that the investor withdraws from construction.	Financial instrument – reducing risk / SODN, Ministry of the Economy	Connection to parts of the grid that are reinforced in view of the envisaged connection of new units of dispersed electricity generation.	Investors in electricity generation from RES and CHP, SODN.	2010
46	Promoting RES in local energy concepts Amendment of the Rules on the methodology and obligatory content of local energy concepts (Off. Gaz. RS, No. 74/09) such that the data required by Articles 8 (determining physical areas suitable for placing RES power stations) and 11 (analysis of possible measures for using RES) of these rules can be used in the methodology for drawing up the SODN development plan.	Support for spatial planning and grid planning / Ministry of the Economy, municipalities, Ministry of the Environment and Spatial Planning	Taking account of local energy concepts in municipal spatial plans and acceptable environmental impact, environmental conformity, ensuring grid capacities for connection of planned new units of dispersed electricity generation.	Municipalities spatial planners, environmental reporters, distribution companies	2010
47	Stepped up implementation of active networks Drafting legislation and implementing acts that will enable the realisation of active networks (refurbishing and expanding networks, construction of adequate communication paths in the distribution network for managing and administering the network). The aim is to develop a grid that operates with greater adaptability, accessibility (for units of	Support for accelerated implementation of active networks / Ministry of the Economy, SODN,	Enabling grid connection for all units of dispersed electricity generation	Distribution companies	2011

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	dispersed electricity generation), reliability of electricity supply and economy.	Slovenian Energy Agency			
TRANSPORT					
Tax and excise policy					
48	Policy for setting excise duty for motor fuels The Ministry of Finance is drafting amendments to the Excise Act as follows: - in Article 53, vegetable oils used as fuels will not be deemed to be mineral oils on which excise duty is payable. In connection with this amendment, amendments will also bee needed for the Rules on the payment of excise duty for energy products, which will be adjusted in favour of producers of fuels to power motor vehicles, if they use or combine unprocessed vegetable oils with fossil fuels. Firstly it will be necessary to define what "vegetable oils" in fact are. - in paragraph 9 of Article 54, and in connection with its implementation amendments to Rules on the method of refunding excise duty for energy products used to power agricultural and forest machinery (Off. Gaz. RS, 10/06, 12/07 and 3/09) such that the excise duty refund can only be claimed for quantities of fossil fuel used that are proportionate to the quantity of certified biofuel used to power agricultural and forest machinery. The Ministry of the Economy will study the possibility of regulating the prices of fossil fuels and biofuels to ensure the competitiveness of the latter.	Taxes and tax relief / Ministry of Finance, Ministry of the Economy	Defining vegetable oils as excise products and ensuring competitive prices of biofuels to power vehicles	Producers and distributors of biofuels, biofuel end-users, agriculture	2013-2020
49	Relief for RES vehicles The Ministry of Transport will draft amendments to Articles 5 and 6 and Annex I of the Annual Fee for the Use of Motor Vehicles Act (Off. Gaz. RS, No. 57/08) so as to introduce relief for vehicles converted to use biofuel and other RES, where vehicles that are technically equipped for the use exclusively of biofuels, such as B100, E85, hydrogen and other RES, will be classed in the lowest fee bracket, as applies to electric vehicles.	Taxes and tax relief / Ministry of Transport	Increased competition and sale of private, light goods and heavy goods vehicles powered by RES	End buyers of vehicles	2012-2020
	The Ministry of Transport will draft amendments to Articles 3 and 4 and of the Decree on the method of determining and the level of the annual fee for the use of motor vehicles (Off. Gaz. RS, No. 100/08, 12/10) issued pursuant to Article 5(4) of the Annual Fee for the Use of Motor Vehicles Act (Off. Gaz. RS, No. 57/08) such that in taking account of the emission performance of light and heavy goods vehicles adapted for the use of biofuels and other RES, relief is granted on the annual fee for the use of such vehicles on the road. The measure would be limited in time with verification of the effect.				

<table>
<tr><th>No.</th><th>Name of measure/policy</th><th>Type of measure/competence</th><th>Expected result</th><th>Targeted group or activity</th><th>Start and end dates of measure</th></tr>
<tr><td colspan="6">Obligatory share of RES</td></tr>
<tr><td>50</td><td>Proportion of biofuels in motor fuels

The Ministry of the Environment and Spatial Planning is drafting amendments to the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07 and 5/10) such that its provisions accord with the amendments to Directive 2003/30/EC and Directive 2009/28/EC. Based on these amendments, the highest proportion of biofuel admixture for which there is still no duty to notify the end user about added biofuel, is raised from the current 5% to 7% (V /V) in diesel fuel and to 10% (V/V) for petrol, taking into account the requirements in diesel fuel standard EN 590:2009 and biodiesel standard EN 14214:2009 and taking into account the requirements in petrol standards EN 228:2008 and EN 15376:2007 for bioethanol as a petrol additive.

The necessary minimum annual quotas of sold biofuel are determined for motor fuel distributors. The annual quota of biofuel that distributors must place in the market in the target year of 2020, calculated by energy value of the fuel, amounts to 10% (V/V) of all sold motor fuel (diesel and petrol). The quota of biofuel in the years up to 2020 must be at least:

<table><tr><td></td><td>2013</td><td>2014</td><td>2015</td><td>2016</td><td>2017</td><td>2018</td><td>2019</td><td>2020</td></tr><tr><td>Quota [%]</td><td>2.98</td><td>3.58</td><td>4.30</td><td>5.16</td><td>6.20</td><td>7.00</td><td>8.40</td><td>10.00</td></tr></table>
The Decree on the physical and chemical properties of liquid fuels (Off. Gaz. RS, No. 63/06 and 92/06) and the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07 and 5/10) to be harmonised with Directive 2009/28/EC in terms of the vapour pressure value of petrol containing bioethanol.</td><td>Promoting the biofuel market / Ministry of the Economy, Ministry of the Environment and Spatial Planning</td><td>Increasing the share of biofuels in all motor fuels sold</td><td>Motor fuel producers and distributors</td><td>2012-2020</td></tr>
<tr><td></td><td>In the event of non-fulfilment of obligations by distributors of motor fuels, fines will be changed for infringements in connection with the fulfilment of annual quotas, whereby for the missed part of the quota a penalty will be determined in proportion to the energy value of the fuel necessary to achieve the prescribed quota in EUR/MJ.

Setting the obligatory share of biofuels will be regulated by amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 ad 22/10), and the sustainable aspects of biofuels will be regulated in the Environmental Protection Act (Off. Gaz. RS, No. 41/04, 17/06, 20/06, 49/06-ZmetD, 33/07-ZPNa•rt, 57/08-ZFO-1A, 70/08, 108/09-ZPNa•rt-A, 108/09).</td><td></td><td></td><td></td><td></td></tr>
<tr><td>51</td><td>Share of RES in public transport

In accordance with the aims of Directive 2009/28/EC, in its transposition into Slovenian legislation the Ministry of the Economy will propose such amendments to the Energy Act</td><td>Regulations / Ministry of the Economy</td><td>Greater share of RES in public transport</td><td>Public transport</td><td>2011-2020</td></tr>
</table>

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	(Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) that will give the Government jurisdiction to issue a regulation which in public transport (public transport concession services – Decree on green public procurement) will regulate a greater degree of obligatory use of biofuels and other RES than is laid down in the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles for other motor vehicles on the road.				
Promoting the development of filling infrastructure					
52	Infrastructure for RES in transport In accordance with the aims of Directive 2009/28/EC, in its transposition into Slovenian legislation the Ministry of the Economy will propose such amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10), that will grant the Government jurisdiction to issue a regulation requiring fuel distributors to provide a minimum of facilities at petrol stations for fuelling with biofuels such as B100, E85 and hydrogen, and requiring public car park operators in connection with the facilities they provide to ensure recharging points for electric road vehicles.	Regulations / Ministry of the Economy	Increased use of RES vehicles owing to the provision of distribution infrastructure	Motor fuel distributors, car park operators	2012-2020
Promotion of vehicle efficiency					
53	Revised version of the AP EEU A revised version of the AP EEU (Action Plan for Efficient Energy Use 2008-2016) with measures to increase the efficiency of transport in line with IEA recommendations: - promoting the use of energy efficient tyres with low rolling resistance in private transport, and promoting the monitoring of adequate tyre pressure. - prescribed energy efficiency of new delivery and goods vehicles: o standardised fuel economy, o voluntary or compulsory programmes to promote fuel economy of delivery and goods vehicles (replacement, procurement), - eco-driving – supplementing the programme defined in the AP EEU for transport (promotional and educational activities, economical driving school etc.) with the aim of raising the awareness of private vehicle drivers.	Regulations / Ministry of the Economy	Reduced final energy consumption in transport		2010-2020
HORIZONTAL MEASURES					
54	Spatial information system The Ministry of the Environment and Ministry of Public Administration will set up a spatial information system, which will, after ensuring adequate technical provision for administrative authorities, enable the establishing of web services for issuing electronic permits (e-building permits etc.). The Ministry of the Environment and Ministry of Public Administration will then study the possibility of amending the Construction Act (Off. Gaz. RS, No. 102/04 — official	Improving administrative procedures through an information system / Ministry of the Environment and Spatial Planning, Ministry of Public Administration	Improving procedures in obtaining construction permits and other consent	Investors	2015-2020

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	consolidated text, 14/05-corr., 92/05-ZJC-B, 111/05 — decision of the Constitutional Court, 93/05-ZVMS, 120/06 — decision of the Constitutional Court, 126/07 and 108/09), the Spatial Planning Act and the Environmental Protection Act (Off. Gaz. RS, No. 41/04, 17/06, 20/06, 49/06-ZmetD, 33/07-ZPNa•rt, 57/08-ZFO-1A, 70/08, 108/09-ZPNa•rt-A, 108/09), so as to enable access to information on the processing of applications relating to obtaining permits and consent for placing plants and infrastructure in the physical environment.				
55	Educating persons in managing administrative procedures for RES projects The Ministry of the Environment and Spatial Planning and the Ministry of Public Administration will design training courses for persons managing procedures for issuing construction and user permits for RES structures.	Education / Ministry of the Environment and Spatial Planning, Ministry of Public Administration	Eliminating administrative obstacles in obtaining permits for physically locating RES plants and infrastructure	Investors, project designers, supervisors, auditors, inspectors, contractors	2011-2030
56	Single approval for RES structures The Ministry of the Environment and Spatial Planning will study the establishing of a system of issuing single approval for RES structures classed as structures of national importance, by combining the issuing of environmental consent, environmental permits, water consent and nature protection consent into one procedure and one approval.	Improvement of administrative procedures / Ministry of the Environment and Spatial Planning	Improving procedures for obtaining consent before issuing construction permit for RES projects	Investors	2011-2020
57	Setting up information points for EEU and RES The Ministry of the Economy will set up a common entry/promotion/information point for EEU and RES aimed at interdepartmental coordination of the promotion and notification of support measures, reducing and eliminating administrative obstacles and stepping up the implementation of RES projects. The Ministry of the Economy will set up a centralised energy register/geographical information system on the potential for RES, including environmental acceptability and an information e-portal for RES. The Ministry of the Economy will set up a system of information provision for all relevant actors regarding the benefits, costs, energy efficiency of plants and systems for heating, cooling and electricity generation from RES, based on a system of established mechanisms for energy evaluation of plants and energy advice for citizens (EnSvet), and will expand this with a web calculator for citizens for ongoing monitoring of the prices of energy products for heating. The Ministry of Public Administration will set up a body for resolving disputes linked to administrative procedures and for active elimination of administrative obstacles on a systemic level. On the household level, a coordinating role will be assumed by the overhauled programme of energy advice for citizens – EnSvet.	Intermediary and service centre for EEU and RES projects / Ministry of the Economy, Ministry of Public Administration	Stepping up the implementation of RES projects through online services and faster elimination of problems for investors	Investors	2011-2020
58	Improving administrative procedures for installing facilities for decentralised electricity generation	Improving administrative	Stepping up the installation of facilities	Administrative units,	2011

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	The Ministry of the Environment and Spatial Planning is drafting amendments to the Decree amending the Decree on energy infrastructure (Off. Gaz. RS, No. 62/03, 88/03), which will define in greater detail for facilities for decentralised generation of electricity, heat or cooling from RES: - when the installation of such facilities in/on a structure is deemed to be major maintenance and repair, - when this involves a simple structure or a less demanding structure in the installation/placement of such facilities in/on structures with regard to their size or capacity to produce electricity or heating and cooling.	procedures with detailed definition of the criteria for facilities using RES / Ministry of the Environment and Spatial Planning	for decentralised production of electricity, heating or cooling from RES in or on existing structures	Ministry of the Environment and Spatial Planning, DE	
	Ensuring quality project implementation				
59	System for ensuring quality project implementation Through amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) the Ministry of the Economy will arrange the establishing of a system to ensure the quality implementation of RES projects (a scheme and implementation of quality standards for expert designs, planning and implementation of systems to produce heat and for the hot water network based on RES).	Regulations, training, certification of contractors / Ministry of the Economy	Setting up a system to ensure quality project implementation	Training: contractors, designers, public administration, plant and system suppliers, architects, trade chambers, advisers, energy suppliers, financial service providers	2011-2020
Biofuels					
60	Certification of biofuels in terms of criteria of quality and sustainability In accordance with the aims of Directive 2009/28/EC, in its transposition into Slovenian legislation the Ministry of the Economy will propose such amendments to the Energy Act (EZ-UPB2) (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) that will provide a legal basis for the issuing of regulations governing the certification of biofuels in terms of quality criteria. In accordance with the aims of Directive 2009/28/EC, in its transposition into Slovenian legislation the Ministry of the Environment and Spatial Planning will propose such amendments to the Environmental Protection Act (ZVO-UPB1) (Off. Gaz. RS, No. 51/06 — official consolidated text, 66/06, 70/08 and 108/09) that will govern the certification of biofuels in terms of the sustainability criteria of their production, and will enact appropriate implementing acts. Establishing a system for ensuring the quality of wood biomass (drafting and implementing rules on the quality of wood fuels and amending the rules governing the classification of wood fuels; drafting rules to ensure quality in distribution and storage of wood fuels)	Certification, regulations on quality criteria for biofuels, regulations on sustainability criteria for biofuels / Ministry of the Economy, Ministry of the Environment and Spatial Planning	Ensuring sustainability and quality criteria for biofuels	Fuel distribution	2011
61	Introducing RES to agricultural mechanisation	Investment incentives	Increasing the share	Agriculture	2012-2020

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	The Ministry of Agriculture, Forestry and Food will ensure that in implementing measures pursuant to the Decree on measures of axis 1, 3 and 4 of the Rural Development Programme of the Republic of Slovenia 2007-2013 (Off. Gaz. RS, No. 73/08, 17/09) the procurement of agricultural machinery that uses energy from renewable sources and the conversion of existing agricultural machinery to use RES will be classed as eligible investments.	/ Ministry of Agriculture, Forestry and Food	of biofuel users in agriculture		
62	Biogas The Ministry of the Economy will draft amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) to include biogas in the natural gas network. The technical rules for connection to the network (including rules on biogas quality) and the tariffs for connecting biogas will be covered by appropriate implementing regulations.	Regulations / Ministry of the Economy	Increased use of biogas	Agriculture, natural gas distribution	2011
Research and development					
63	Promoting EEU and RES as part of the National Research and Development Programme In the new National Research and Development Programme (being drafted) and other programmes, the Ministry of Higher Education, Science and Technology, in cooperation with the Ministry of the Economy, will define energy and environmental technology, technology for rational energy use and for exploiting new and renewable energy sources as a priority research and development field, and as a model and priority area of cooperation between science and commerce. The Ministry of of Higher Education, Science and Technology, in cooperation with the Ministry of the Economy and the Government Office for Development and European Affairs, will promote the inclusion of projects and new instruments for linking research institutions and the commercial sector in the fields of EEU and RES.	Research and development / Ministry of Higher Education, Science and Technology, Demonstration projects / Ministry of Higher Education, Science and Technology (Ministry of the Economy and the Government Office for Development and European Affairs)	Increased competitiveness of the Slovenian economy in EEU and RES, demonstration projects for easier transfer of new technologies to Slovenian commerce, mainly in industry, linking commerce and research, developing new products and services	Universities, research and development institutes, industrial companies	2011-2020
Education and training					
64	Systematic inclusion of topics in the area of EEU and RES in natural science curriculums in primary and secondary schools and faculties, and in lifelong learning and training programmes The Ministry of Education and Sport will promote: - Systematic inclusion of topics in the area of EEU and RES in natural science curriculums in primary and secondary schools; - a harmonised programme of extracurricular activities for young people in the fields of EEU and RES; - systematic inclusion of topics in the area of EEU and RES in lifelong learning and training programmes.	Education/ Ministry of Education and Sport in cooperation with the Government Office for Climate Change and the Ministry of Higher Education, Science and Technology in cooperation with universities	Educating young people in the fields of EEU and RES and ensuring an adequate number of new personnel for implementing priority EEU and RES projects Ensuring an adequate number of new personnel for implementing priority	Primary and secondary schools, universities, research and development institutes, institutions and organisations specialised in lifelong learning and training	2011-2020

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	In cooperation with universities, the Ministry of Higher Education, Science and Technology will promote the systematic inclusion of the fields of EEU and RES in faculty curriculums.		EEU and RES projects		
65	Setting up a system of certification for installers The Ministry of the Economy is drafting amendments to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) and implementing regulations for certification or an equivalent system of qualification for installers in accordance with Article 14 of Directive 2009/28/EC.	Certifying contractors and training	Ensuring high-quality project implementation	Installers	20012-2020
Awareness raising and promotion					
66	Awareness raising for the general public and target groups about support measures The Government Climate Change Office is drawing up and implementing a communication strategy for: - promoting EEU and RES in cooperation with local communities to achieve development targets, in accordance with the requirements of Article 14 of Directive 2009/28/EC for informing citizens of the benefits and practical aspects of development and use of RES, - promotion of a single information point for RES and promotion of support measures for all relevant actors, such as consumers, builders, installers, architects, suppliers of heating, cooling and electricity equipment and systems and of vehicles compatible with the use of energy from RES, etc.	Raising awareness in the general public and relevant target groups / Slovenian Government Office for Climate Change	Easier placing of RES projects in the physical environment, greater access to state support for consumers and thereby greater effect of support; reinforcing capacities for implementing EEU measures	General public Information: general public, energy users, investors, suppliers	2010-2020
Statistics on renewable energy sources					
67	Collecting data on equipment for exploiting RES within the register of real estate The Ministry of the Environment and Spatial Planning will ensure the collection of additional parameters on the performance of buildings (data on heat pumps, solar panels and solar cells and on the use of wood biomass as fuel) pursuant to Article 103 of the Recording Real Estate Act (ZEN, Off. Gaz. RS, No. 47/06 and 65/07 — decision of the Constitutional Court) regarding the collection of data on real estate through a questionnaire for the owner, user or tenant of real estate or building manager, which would be carried out by the geodetic administration as part of data collection for the purposes of maintaining the register of real estate. Pursuant to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) the Ministry of the Economy is drafting rules in cooperation with the Ministry of the Environment and Spatial Planning/GARS for linking the register of energy IDs to the register of real estate.	RES statistics / Ministry of the Environment and Spatial Planning	Improving the system of collecting data on RES within the real estate register for reporting to the European Commission	Ministry of the Environment and Spatial Planning, GARS	2012
68	Collecting data on the use of RES in broad consumption and indirect provision of wood biomass for energy production	RES statistics / Slovenian Statistical Office	Improving the system of collecting data for reporting to the	SORS	2012

No.	Name of measure/policy	Type of measure/competence	Expected result	Targeted group or activity	Start and end dates of measure
	In cooperation with the Ministry of the Economy, the Slovenian Statistical Office (SORS) is drafting a proposal to improve statistical research on the use of RES in broad consumption, and this will include data: - from the register of energy IDs and register of real estate, - from energy accounting in the public sector, - from a SORS survey of consumption in households and broad consumption, - on the generation of electricity from RES, - on the sale of heat pumps, solar panels and biomass boilers, - indirect supply of wood biomass for energy production and - other appropriate measures for improving statistical research on RES use.		European Commission		
National procedures for arranging statistical transfers or joint projects					
69	Arranging procedures for statistical transfers or joint projects The Ministry of the Economy is drafting principles and an appropriate amendment to the Energy Act (Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10) for implementing national procedures for arranging the statistical transfer of energy from renewable sources and cooperation in joint projects for producing electricity, heat and cooling from RES.	Statistical transfers and joint projects / Ministry of the Economy	Possibility of carrying out statistical transfers and joint projects in line with Directive 2009/28/EC	Slovenia (Slovenian Government), Member States, third countries, investors	2012

4.2 Specific measures to fulfil the requirements of Directive 2009/28/EC

4.2.1 Administrative procedures and spatial planning

(a) Legislation on procedures for issuing permits and on spatial planning

(a-1) Procedures for spatial planning of plants and infrastructure are governed by the following regulations:

- Physical Environment Act (ZUreP-1), Off. Gaz. RS, No. 110/02, 8/03, 58/03-ZZK-1, 33/07-ZPNa•rt;
- Spatial Planning Act (ZPNa•rt) Off. Gaz. RS, No. 33/07, 70/08-ZVO-1B;
- Decision on the strategy of spatial development of Slovenia (OdSPRS), Off. Gaz. RS, No. 76/04;
- Decree on the spatial order of Slovenia, Off. Gaz. RS, No. 122/04;
- Environmental Protection Act (ZVO-1), Off. Gaz. RS, No. 41/04, 17/06, 20/06, 49/06-ZmetD, 33/07-ZPNa•rt, 57/08-ZFO-1A, 70/08, 108/09-ZPNa•rt-A, 108/09;
- Nature Conservation Act, Off. Gaz. RS, No. 56/99, correction-31/00, 110/02-ZGO-1, 119/02, 41/04, 61/06-ZDru-1;
- Waters Act (ZV-1), Off. Gaz. RS, No. 67/02, 110/02-ZGO-1, 2/04-ZZdrI-A, 41/04-ZVO-1, 57/08;
- Energy Act (EZ-UPB1), Off. Gaz. RS, No. 27/07 — official consolidated text, 70/08 and 22/10);
- Mining Act (ZRud), Off. Gaz. RS, No. 56/99, 46/04-ZRud-A, 68/08-ZRud-B.

The Physical Environment Act regulates spatial planning and the establishing of spatial measures for implementing planned spatial regulations, ensuring the provision of facilities for building land and managing a system of spatial databases.

The Spatial Planning Act governs spatial planning as part of the management of the physical environment, by determining types of spatial acts, their content and mutual relationship and the procedures for their drafting and adoption.

The Decision on the strategy of spatial development of Slovenia is a measure adopted pursuant to the Physical Environment Act, and is a fundamental national document for steering development in the physical environment. It provides a framework for spatial development across the entire national territory and establishes trajectories for development in the European area. The cartographic material for this decision is made up of maps in publications for individual fields: development of towns and other settlements, architectural recognisability, guidelines for developing a transport system, trajectories for developing energy systems, recognisability in terms of the cultural and symbolic significance of the landscape and of the natural quality of the landscape, use of natural resources, potentials for drinking water supply, spatial limitations for development.

The Decree on the spatial order of Slovenia is a measure that sets the rules for spatial planning.

The Environment Protection Act regulates protection of the environment from burdening as a fundamental condition of sustainable development, and in this context it sets out the basic principles of environmental protection, environmental protection measures, monitoring the state of the environment and information on the environment, economic and financial

instruments for environmental protection, public environmental protection services and other issues tied to environmental protection.

The Nature Conservation Act sets out measures to preserve biodiversity and a system of protection for natural assets aimed at contributing to nature conservation, where the biodiversity preservation measures are measures intended to regulate the protection of wild plant and animal species (hereinafter: plant and animal species), including their genetic material and habitats and ecosystems, and it facilitates the sustainable use of biodiversity components and ensures preservation of the natural balance.

The Waters Act governs the management of the sea, inland and groundwater (hereinafter: waters) and aquatic and coastal land, where the protection of waters, management of waters and deciding on the use of waters are deemed to be management of water and aquatic and coastal land.

The Energy Act lays down the principles of energy policy, the rules for the operation of the energy market, the methods and forms of providing commercial public services in the field of energy, the principles of reliable supply and efficient energy use and the conditions for the operation of energy plants, the conditions for performing energy-related business, and it regulates the issuing of licences and energy permits as well as the authorities performing administrative tasks under this act.

The Mining Act regulates the prospecting, exploitation and management of mineral ores as a natural resource, irrespective of whether they are in the ground or on the surface in flowing or standing water or in coastal waters. This act also provides the method of allocating mining rights, the competence for and method of issuing individual permits and also the organisation and method of performing inspection services in the mining sector.

Important phases of spatial planning for the physical placement of plants and infrastructure

Type of plant or infrastructure	National Energy Programme / Strategic Spatial Plan	National spatial plan	Municipal spatial plan	Integrated environmental impact assessment
Hydroelectric stations	>10 MW_t	>10MW_t	• 10 MW_t	P
Wind generators	field >10 MW_S	field >10 MW_e	field <10 MW_e	P
Geothermal power stations	>16 MW_t	>16 MW_t	• 16MW_t	P >30kW_t
Thermal and thermal CHP stations running on biomass or biofuel	>16 MW_t	>16 MW_t	• 16 MW_t	
Thermal and thermal CHP stations running on solid fuel from non-hazardous waste or non-hazardous waste incinerators		> 1000 tons of waste annually	• 1000 tons of waste annually	> 1000 tons of waste a day
Plants for producing biofuel from biomass			P	P
Electricity transmission lines	• 110kV	• 110kV	• 110kV	• 110kV and length of 5 km in settled or protected areas
Distribution network for heating and cooling			P	For pipeline diameter of 800 mm and length of 40 km or for pipeline diameter of 500 mm and length of 5 km in protected areas
Plants for decentralised production of electricity, heating and cooling – less complex structures			P	
Plants for decentralised production of electricity, heating and cooling – major maintenance works				

(a-1.1) Regulations classifying plants and infrastructure in terms of spatial planning as structures of national or local importance:

- Decree on the types of spatial planning of national significance, Off. Gaz. RS, No. 95/07, 102/08.

The Decree on the types of spatial planning of national significance sets out the types of spatial planning for which the state is responsible. Those in charge of spatial planning for plants and infrastructure are local (local authorities) and national (ministries, chiefly the ministry responsible for energy, and the ministries responsible for renewable natural resources – water and biomass).

Spatial planning of national importance in the field of using renewable sources comprises:

- hydroelectric power stations and wind farms with a rated output of 10 MW_e and more,

- thermal power stations and thermal heat and power stations running on biomass or biofuel and geothermal power stations with a rated electricity output of 16 MW_e and more and

- electricity transmission lines with a rated voltage of 110 kV or more, with pertaining functional structures.

Local land planning administration includes the spatial planning of hydroelectric stations and wind farms with rated electricity output of less than 10 MW_e, thermal CHP stations running on biomass or biofuel with a rated output of less than 16 MW_e, and plants for heating or cooling from renewable sources and pertaining infrastructure of the electricity distribution network, with a voltage of less than 110 kV and pertaining infrastructure of the heating or cooling distribution network.

In the placing of plants and infrastructure in the physical environment, state and local spatial planning managers submit their development needs, ensure an expert basis for the submitted development needs, issue guidelines and opinions and participate in the procedures of coordinating with other spatial plans.

(a-1.2) Regulations that class plants and infrastructure as environmental encroachments for which in planning (strategic planning or programming and spatial planning) an integrated environmental impact assessment is required:

- Decree on the criteria for assessing the probability of major impacts of the implementation of a plan, programme or other general act and its changes to the environment in the procedure of integrated environmental impact assessment, Off. Gaz. RS, No. 9/09;

- Rules on the assessment of acceptability of the impacts of implementing plans and natural encroachments on protected areas, Off. Gaz. RS, No. 130/04, 53/06.

The Decree on the criteria for assessing the probability of major impacts of the implementation of a plan, programme or other general act and its changes to the environment in the procedure of integrated environmental impact assessment lays down the criteria for assessing the likelihood of major impacts from a plan, programme or other general act and its changes to the environment.

The Rules on the assessment of acceptability of the impacts of implementing plans and natural encroachments on protected areas lay down the content and detailed methodology for assessing the acceptability of the impacts of implementing plans and natural encroachments on protected areas, special protected areas and potential special protected areas, and encroachments on nature that might have a major impact on those areas.

An integrated environmental impact assessment for strategic plans, programmes and spatial plans for plants and infrastructure is performed if:

- an environmental impact assessment is required for obtaining a construction permit for plants or infrastructure or

- the installation of a plant or infrastructure could have a major impact on protected areas and Natura areas, including areas that are important for the cohesion of the European ecological network Natura 2000.

(a-2) Procedures for issuing permits for plants and infrastructure are governed by the following regulations:

- Construction Act, Off. Gaz. RS, No. 110/02, 41/04-ZVO-1, 45/04, 47/04, 92/05-ZJC-B, 93/05-ZVMS, 126/07, 108/09;
- Environmental Protection Act (ZVO-1), Off. Gaz. RS, No. 41/04, 17/06, 20/06, 49/06-ZmetD, 33/07-ZPNa•rt, 57/08-ZFO-1A, 70/08, 108/09-ZPNa•rt-A, 108/09,
- Nature Conservation Act, Off. Gaz. RS, No. 56/99, correction-31/00, 110/02-ZGO-1, 119/02, 41/04, 61/06-ZDru-1;
- Waters Act (ZV-1), Off. Gaz. RS, No. 67/02, 110/02-ZGO-1, 2/04-ZZdrI-A, 41/04-ZVO-1, 57/08;
- Mining Act (ZRud), Off. Gaz. RS, No. 56/99, 46/04-ZRud-A, 68/08-ZRud-B.

The Construction Act lays down the procedures for obtaining construction permits for plants and infrastructure and sets the conditions for obtaining them.

The Environmental Protection Act lays down the procedures for obtaining environmental permits for plants and infrastructure and sets the conditions for obtaining them. This act also lays down the procedures for issuing environmental consent for the physical placement of plants and infrastructure, if their construction could impact the environment.

The Nature Conservation Act lays down the procedures for issuing nature protection consent regarding construction permits for the physical placement of plants or infrastructure, if their construction could threaten biodiversity, natural assets or protected areas.

The Waters Act regulates procedures for obtaining water permits or concessions, where this involves a plant that uses aquatic resources, and sets the requirements for obtaining a water permit or concession. This act also lays down the procedures for issuing water consent in respect of the construction permit for the physical placement of plants and infrastructure, if their construction could impact the water regime.

The Mining Act provides the method of allocating mining rights, the competence for and method of issuing individual permits and also the organisation and method of performing inspection services in the mining sector.

Procedures for issuing permits

Type of plant or infrastructure	Water rights	Mining rights	Environmental permit	Construction permit	Environmental impact assessment – environmental consent
Hydroelectric stations	P	-	-	P	• 1 MW_e
Wind generators				P	• 10 MW_e in protected areas • 0.5 MW_e
Geothermal energy source	P For use of groundwater to exploit geothermal energy	P To exploit geothermal energy in a closed system with reinjection		P For construction of above-surface structures	• 30 kW_t
Thermal, thermal CHP and heat stations running on biomass or biofuel	P For cooling water in thermal power stations		• 1 MW_t	P	• 50 MW_t
Thermal and thermal CHP stations running on solid fuel from non-hazardous waste or non-hazardous waste incinerators	P For cooling water in thermal power stations		P	P	• 100 tons of waste a day
Plants for producing biofuel from biomass			P	P	P
Electricity transmission lines				P	• 110kV and length of 5 km in settled or protected areas
Distribution network for heating and cooling				P	for pipeline diameter of 800 mm and length of 40 km or for pipeline diameter of 500 mm and length of 5 km in protected areas
Plants for decentralised production of electricity, heating and cooling – less complex structures	P for hydroelectric stations not connected to the grid or for use of cooling water		P for handling waste of biological origin	P	

Procedures for issuing permits

Type of plant or infrastructure	Water rights	Mining rights	Environmental permit	Construction permit	Environmental impact assessment – environmental consent
Plants for decentralised production of electricity, heating and cooling – major maintenance works	-	-	-	-	-

(a-2.1) Regulations classifying plants and infrastructure in terms of construction as structures of national or local importance:

- Decree on the introduction and application of uniform classification of structures and on the designation of structures of national importance, Off. Gaz. RS, No. 33/03, 78/05.

The Decree on the introduction and application of uniform classification of structures and on the designation of structures of national importance sets a standard classification for types of structures and also defines buildings and civil engineering structures for which construction permits are issued by the ministry responsible for spatial and construction affairs.

Structures of national importance are hydroelectric stations, wind farms, thermal power stations and thermal heat and power stations running on biomass or biofuel and geothermal power stations with rated electricity output of 10 MW_e or more and electricity transmission lines with pertaining functional structures with rated voltage of 110 kV or more.

For the construction of structures of national importance, construction permits are issued by the ministry responsible for spatial and construction affairs, and for the construction of structures of local importance, permits are issued by the locally competent administrative unit.

(a-2.2) Regulations classifying the physical placement of plants as construction work that does not require a construction permit:

- Decree on types of structures with regard to their complexity, Off. Gaz. RS, No. 37/08, 99/09.

The Decree on types of structures with regard to their complexity defines types of complex, less complex, non-complex and simple structures, and for simple structures it also defines their maximum size, the method of construction and use and other conditions that must be met for the structure to be considered a simple structure, and works that are deemed to be regular maintenance and major maintenance works.

Plants for decentralised production of electricity, heating or cooling from renewable sources, whose placement is classed as major maintenance works on a structure or for the needs of a structure, if they do not encroach on the construction of the structure and do not change its capacity, size, purpose and external appearance, are as follows:

- installation of a generator for producing electricity,
- installation of a heating plant,
- installation of solar collector or solar cells,
- installation of a heat pump,
- installation of a wind generator for producing electricity,
- drilling for a geoprobe (geocollector) and
- installation of air conditioning equipment.

(a-2.3) Regulations classifying plants for producing biofuel from biomass as plants that might cause large-scale environmental pollution:

- Decree on the type of activities and plants that might cause large-scale environmental pollution, Off. Gaz. RS, No. 67/04, 71/07, 122/07.

The Decree on the type of activities and plants that might cause large-scale environmental pollution lays down the type of activities and plants that might cause large-scale environmental pollution and for which their operators must obtain environmental permits in accordance with the act regulating environmental protection. This decree also lays down the detailed content and components of applications for environmental permits, the detailed content of environmental permits and the criteria for assessing the use of best available technologies.

Plants for producing biofuel from biomass (producing liquid and gaseous biofuels, except for biogas plants based on anaerobic processing of biodegradable matter) are classed as plants for the production of chemical products in the chemical industry (plants for the production of simple hydrocarbons), where an environmental permit must be obtained for the operation of plants that might cause large-scale environmental pollution.

(a-2.4) Regulations classifying plants and infrastructure as environmental encroachments for which in obtaining a construction permit an environmental impact assessment is required:

- Decree on the types of environmental encroachment for which an environmental impact assessment is required, Off. Gaz. RS, No. 78/06, 72/07, 32/09.

The Decree on the types of environmental encroachment for which an environmental impact assessment is required

defines the types of environmental encroachments and their changes for which environmental impact assessments are always obligatory, and the types of environmental encroachments and their changes for which environmental impact assessments are obligatory if they exceed a set scope and they fulfil certain conditions regarding the characteristics of the encroachment, location of the encroachment and possible environmental impacts.

An environmental impact assessment is required for obtaining a construction permit for plants or infrastructure for:

- hydroelectric stations with accumulation capacity of 10,000 m^3 for accumulation or accumulation flow hydroelectric stations and a rated output of 1,000 kW_e for flow hydroelectric stations,

- five wind turbines on a wind farm or a total rated electricity output of turbines on a wind farm of 10 MW_e or three wind turbines on a wind farm or a total rated electricity output of wind turbines on a wind farm of 0.5 MW_e in protected areas pursuant to the regulations on cultural heritage and nature conservation,

- thermal power stations, thermal heat and power stations and heat stations running on biomass or biofuel (including internal combustion engines) and geothermal power stations with a thermal input capacity of 50 MW_t and more or 10 MW_t or more, where this involves solid fuel from waste biomass,

- electricity transmission lines with a rated voltage of 110 kV or more with pertaining functional structures, if the length of line is more than 5 km in settlements or protected areas pursuant to the regulations on cultural heritage and nature conservation,

- infrastructure for the distribution network for heating or cooling, if the pipeline diameter is greater than 0.8 m and length is greater than 40 km, or if the pipeline diameter is greater than 0.5 m and length greater than 5 km in protected areas pursuant to the regulations on cultural heritage and nature conservation, and on water protection areas pursuant to the regulations on water,
- plants for producing biofuel from biomass (producing liquid and gaseous biofuels, except for biogas plants based on anaerobic processing of biodegradable matter) since they are classed as plants for the production of chemical products in the chemical industry.

Environmental impact assessments are also needed for the preparation of uncultivated land or land in semi-natural areas with an area of 50 ha or more, or an area of 30 ha if the land is in a protected area, for the agricultural production of plants suitable for biofuel production.

(a-2.5) Regulations classifying plants and infrastructure as encroachments on nature for which in obtaining a construction permit nature protection consent is required:

- Rules on the assessment of acceptability of the impacts of implementing plans and natural encroachments on protected areas, Off. Gaz. RS, No. 130/04, 53/06.

The Rules on the assessment of acceptability of the impacts of implementing plans and natural encroachments on protected areas set out the levels of assessment of acceptability as the basis for issuing nature protection consent and permits under other regulations.

(a-2.6) Regulations defining the content of applications for water consent for plants that have a major impact on the water regime, pursuant to the Waters Act (ZV-1):

- Rules on the content of applications for project conditions and conditions for other spatial encroachments and on the content of applications for water consent, Off. Gaz. RS, No. 25/09.

The Rules on the content of applications for project conditions and conditions for other spatial encroachments and on the content of applications for water consent set out the content of applications required to obtain: project conditions, conditions for other spatial encroachments and water consent.

(a-2.7) To exploit water to generate electricity in hydroelectric stations, water rights must be obtained:

- in the form of a concession pursuant to the Waters Act (ZV-1), Off. Gaz. RS, No. 67/02, 110/02-ZGO-1, 2/04-ZZdrI-A, 41/04-ZVO-1, 57/08.

(a-2.8) To exploit a geothermal energy source, the following must be obtained:

- mining rights pursuant to the Mining Act, Off. Gaz. RS, No. 46/04-ZRud-A, 68/08-ZRud-B, where this involves exploiting geothermal energy with reinjection;

- water rights pursuant to the Waters Act (ZV-1), Off. Gaz. RS, No. 67/02, 110/02-ZGO-1, 2/04-ZZdrI-A, 41/04-ZVO-1, 57/08, in the form of a concession for use of thermal or mineral-thermal groundwater to exploit geothermal energy.

The proposed new version of the Mining Act will regulate in detail the exploitation of geothermal energy sources, such that it may be pursued only in a closed system with a geocollector or by exploitation with reinjection. The proposed Mining Act also lays down the conditions for exploiting geothermal energy sources through geocollectors and exploitation with reinjection. Drilling bores or performing works intended to exploit geothermal energy sources with geocollectors may be started without a mining permit. Mining rights must be obtained prior to the start of drilling or performing works intended to exploit geothermal energy sources with reinjection.

In issuing mining permits, account needs to be taken of environmental conditions, conditions of the protection regime and the method of management, the use or exploitation of the geothermal energy source in the environmental consent issued pursuant to the Environmental Protection Act.

(a-2.9) Regulations classifying the operation of plants among plants for which environmental permits must be obtained pursuant to the Environmental Protection Act (ZVO-1):

- Decree on the emission of substances into the atmosphere from stationary sources of pollution, Off. Gaz. RS, No. 31/07, 70/08, 61/09;
- Decree on the emission of substances into the atmosphere from waste incineration and coincineration plants, Off. Gaz. RS, No. 50/01, 56/02, 84/02, 41/04-ZVO1;
- Decree on the emission of substances into the atmosphere from small and medium-sized heating appliances, Off. Gaz. RS, No. 34/07, 81/07;
- Decree on the emission of substances into the atmosphere from stationary gas turbines with thermal input power under 50 W and from stationary internal combustion engines, Off. Gaz. RS, No. 34/07, 81/07;
- Decree on the recovery of non-hazardous waste into solid fuel, Off. Gaz. RS, No. 57/08;

- Decree on the treatment of biodegradable waste, Off. Gaz. RS, No. 62/08;
- Decree on the emission of substances and heat in the discharge of wastewater into waters and the public sewage system, Off. Gaz. RS, No. 47/05, 45/07.

In relation to the emission of substances into the air, obtaining environmental permits relates only to thermal power stations, thermal heat and power stations and heat stations running on biomass or biofuel (including internal combustion engines), and in the case of anaerobic processing of biomass or biodegradable waste, the emission of substances into water produced in the processing of decomposed sludge.

Detailed description of plants for which regarding waste handling or emission of substances into the environment, environmental permits must be obtained:

Procedures for issuing permits

Type of plant	Environmental permit to emit substances into the air or water	Environmental permit for waste handling
Waste incinerator and plant for coincineration of mixed waste from biomass and other waste	P	P
Large heating appliances	P	-
Small and medium-sized heating appliances	>1 MW_t for solid and liquid fuel from mixed waste from biomass and other waste	-
Fixed internal combustion engines	>50 MW_t methanol, ethanol, unprocessed vegetable oil, methyl ester from vegetable oils	-
Processing non-hazardous waste into solid fuel	-	P
Biogas plants	-	P For anaerobic processing of waste

(b) Responsible ministries/authorities and their competences

(b-1) Competences of the ministry responsible for spatial planning and construction:

- conducting procedures for preparing national spatial plans for spatial planning of national importance,

- issuing guidelines and opinions on municipal spatial plans involving the planning of plants and infrastructure of local importance,

- issuing construction permits for plants and infrastructure classed as structures of national importance.

(b-2) Competences of administrative units responsible for issuing construction and use permits:

- issuing construction and use permits for plants and infrastructure classed as structures of local importance.

(b-3) Competences of the ministry responsible for environmental protection:

- granting consent to national and municipal spatial plans, for which integrated environmental impact assessments must be performed,

- issuing environmental consent for plants and infrastructure for which in obtaining a construction permit an environmental impact assessment is required:

- for plants producing biofuel from biomass (producing liquid and gaseous biofuels, except for biogas plants based on anaerobic processing of biodegradable matter), the issuing of environmental permits for the operation of plants that might cause large-scale environmental pollution.

- in relation to the emission of substances into the environment, issuing environmental permits for the operation of plants and environmental permits relating to waste handling, where this involves the preparation of fuel from waste biomass.

(b-4) Competences of the ministry responsible for nature conservation:

- granting consent for national and municipal spatial plans where the installation of a plant or infrastructure could have a major impact on protected areas and Natura areas, including areas that are important for the cohesion of the European ecological network Natura 2000,

- granting nature protection consent for obtaining construction permits for plants and infrastructure whose installation could have a major impact on protected areas and Natura areas, including areas that are important for the cohesion of the European ecological network Natura 2000.

(b-5) Competences of the ministry responsible for water management:

- issuing water consent for obtaining construction permits or mining permits for plants or encroachments with an impact on the water regime,

- in relation to the use of water to generate electricity in hydroelectric stations, drawing up concession documents for allocating water rights,

- in relation to the use of thermal or mineral thermal groundwater to exploit geothermal energy, drawing up concession documents for allocating water rights,

- contractual regulation of the implementation of concessions with the holders of water rights to generate electricity in hydroelectric stations and for the use of thermal or mineral-thermal groundwater for the exploitation of geothermal energy.

(b-6) Competences of the ministry responsible for energy:

- issuing permits for exploiting geothermal energy sources with reinjection.

(c) Proportionality of procedures for issuing permits to the size of encroachment on the environment or physical space

The prescribed procedures for issuing permits are proportionate to the size of the environmental or spatial encroachment caused by the physical placement of the plant or infrastructure, and are necessary because they regulate:

- the allocation of mining rights for exploiting geothermal energy sources with reinjection,

- the allocation of water rights to use water for generating electricity in hydroelectric stations irrespective of their capacity,

- the allocation of water rights for the use of thermal or mineral thermal groundwater to exploit geothermal energy,

- obtaining environmental permits for the emission of substances into the environment for thermal power stations, thermal heat and power stations and heat stations running on biomass or biofuel depending on the heat production capacity in the plant,

- obtaining environmental permits for plants producing biofuel from biomass, since these plants are classed as plants in the chemical industry that might cause large-scale environmental pollution,

- obtaining environmental consent for plants and infrastructure where the environmental impacts are significant owing to the extent of impacts or owing to the sensitivity of the environment in protected areas,

- obtaining construction permits for plants and infrastructure, except for plants intended for decentralised production of electricity, heating and cooling for individual housing or commercial units in buildings and their installation is deemed to be major maintenance works.

Auditing for the adoption of appropriate measures in accordance with Article 13(1) of Directive 2009/28/EC regarding proportionality and need is not envisaged.

(d) Existing and planned measures for the procedures for issuing permits, certification and licensing

(d-1) Physical placement of spatial plans of national importance

Given the specific nature of placing infrastructure projects of national importance in the physical environment, a law is being drafted that will regulate in particular the area of their spatial planning and physical placement. The primary aim of the proposed act is to set in law an optimal procedure for the physical placement of nationally important spatial projects, and this includes infrastructure for electricity transmission and distribution and the gas pipeline network.

The new law aims to eliminate the identified drawbacks of existing legislation and to enact a more effective procedure for drafting and adopting spatial acts whose solutions would provide better linkage and guidance for the work of spatial planning managers, while at the same time it would contain a logical sequence of all phases necessary for the preparation of a final national spatial plan, especially in relation to the procedures for integrated environmental impact assessments pursuant to the Environmental Protection Act and the Nature Conservation Act. These types of structure and networks are linked together by a similar specificity in the environmental impact assessment procedure, which is introduced (again) into the phase of spatial planning, while for certain other spatial plans of national importance the procedure is different.

One of the new features of the proposed act is that based on the adoption of a decree on the national spatial plan, a permit is issued for physical placement, and this represents what is termed "development consent", which is important primarily in terms of obtaining European funding for the construction of infrastructure networks and structures. Furthermore the proposed act regulates certain issues that arise in the area of acquiring land through compulsory purchase orders and in the area of demonstrating the right to build.

The plan is for the proposed act to be completed and submitted for adoption in 2010.

(d-2) Promoting the construction of plants to generate electricity from renewable energy sources

The timely construction of plants to generate electricity from RES requires the selection of suitable locations through the adoption of appropriate national spatial plans.

The plan is for possible proposed amendments to legislation governing the placement of plants generating electricity from RES in the physical environment to be formulated by 2015.

(d-3) Transparency of timetables for adopting decisions on applications for planning and construction of plants and infrastructure

Timetables for adopting decisions on applications for planning and construction of plants and infrastructure are transparent:

- permits for constructing plants and infrastructure can be obtained if such construction accords with the adopted national or municipal spatial plans,

- the allocation of water rights and the obtaining of environmental permits must be concluded with full legal effect prior to any application for construction permits,

- environmental consent or other consent, where environmental consent is not prescribed (water consent, nature protection consent) must be obtained in the procedure for obtaining a construction permit.

(d-4) Availability of comprehensive information on the processing of applications for permits relating to plants for RES and their certification and licensing

There is currently no comprehensive information on the processing of permit applications available to applicants for permits or consent relating to the physical placement of RES plants and infrastructure, so there is a proposal for a spatial information system to be set up by the ministries responsible for the environment and spatial planning and for public administration, and thereafter, once the administrative authorities are provided with the necessary technical equipment, it will enable the establishing of an "e-construction permit" web service. This service will enable natural and legal persons to access information on the processing of applications relating to construction permits and granting of consent in the procedures for obtaining construction permits. The proposed service should be set up between 2015 and 2020.

Plans call for possible proposed amendments to legislation regulating the obligation to formulate timetables for the adoption of decision on applications, and access to information on application processing relating to obtaining permits and consent for the physical placement of plants and infrastructure, to be formulated in 2012.

(d-5) Simplifying and speeding up administrative procedures

Administrative procedures related to the allocation of water rights for hydroelectric stations, obtaining environmental consent for wind generators and obtaining water consent for drilling bores for geoprobes (geocollector) will be speeded up through the drafting and adoption of:

- amendments to water management plans for areas where the placement of hydroelectric stations is not an acceptable encroachment on the aquatic environment,

- national spatial plans for the placement of spatial projects for the use of renewable sources where the investor is not known.

The ministry responsible for water is in charge of drafting the amendments to water management plans aimed at more rapid and, for the aquatic environment, acceptable, placement of hydroelectric stations in the aquatic environment. The plan is to amend water management plans by 2012.

The ministry responsible for energy is in charge of drawing up spatial plans for the placement of RES power stations with a rated output of 10 MW_e or more. Spatial arrangements for areas where the placement of RES power stations is acceptable for the environment, will serve to establish conditions that will facilitate for potential investors in using a renewable energy source more rapid obtaining of construction permits and related consent. Plans call for the adoption by 2015 of national spatial plans for placing RES power stations in areas where their placement is an acceptable encroachment on the environment.

(d-6) Proportionality, objectivity, transparency and non-discrimination of rules governing the issuing of permits, certification and licensing

The provisions in the regulations that govern obtaining environmental permits, construction permits and the granting of related consent, are objective, transparent and proportionate, and they do not discriminate between applicants. In issuing permits and granting consent, these regulations take into account solely the specific features of individual RES technologies.

(d-7) Transparency and proportionality of administrative costs

The administrative costs paid by those applying for permits and consent for the physical placement of spatial projects are fees that are transparent, and the level of these administrative fees generally depends on the complexity of the administrative procedure.

(d-8) Simplified and less burdensome procedures for issuing permits for smaller projects and decentralised plants for generating electricity from renewable sources

Simplified and less burdensome procedures have already been introduced for the installation of smaller decentralised plants for producing energy from renewable sources that are a constituent part of buildings and use the energy thus produced.

The installation of plants for decentralised production of electricity, heating or cooling from renewable sources, such as electricity generators, heating appliances, solar collectors or solar cells, heat pumps and wind turbines for electricity generation or bores for geoprobes, or the installation of air conditioning equipment, is classed as major maintenance works on a structure or for the needs of a structure, if they do not encroach on the construction of the structure and do not change its capacity, size, purpose and external appearance.

There is a need, however, to adopt amendments to the regulations that classify the installation of decentralised plants for producing electricity, heating or cooling from renewable sources as major maintenance works on a structure or for the needs of a structure, where such does not signify and encroachment on the construction of the structure and does not change its capacity, size, purpose and outward appearance. The purpose of amending the regulations is to gain a more detailed definition of the installation of decentralised plants that is considered to be maintenance work, and the body in charge of drafting the amendments to this regulation is the ministry responsible for the economy.

Plans call for the amendment of the regulations governing energy infrastructure to be ready for publication and adoption by 2012.

(e) Obstacles or non-proportionate requirements related to permit issuing procedures

In order to eliminate obstacles identified in connection with the issuing of permits that apply to RES structures, a study will be made of the possibility of establishing a system of issuing single approval for RES structures classed as structures of national importance, by combining the issuing of environmental consent, environmental permits, water consent and nature protection consent into one procedure and one approval.

(f) Level of administration (local, national) that is responsible for issuing permits for renewable energy sources and for spatial planning, the method of coordination between different responsible authorities and proposed improvement of this cooperation

The coordination of ministries and competent administrative units in issuing permits for RES is appropriate and sufficient, and requires no improvement for achieving the objectives of Directive 2009/28/EC.

(g) Availability of comprehensive information on the processing of applications for permits and on assistance for applicants

The computerisation of processing applications for permits for new plants running on RES, and the provision of assistance to applicants relating to applications for permits is part of the project of further computerisation of state administration.

The responsible ministries will establish a spatial information system that will set up an “e-construction permit” web service. This service will enable natural and legal persons to conduct e-business in procedures for obtaining construction permits and to access information on the status of processed applications for construction permits. The service should be set up between 2015 and 2020.

(h) Horizontal coordination between different administrative authorities, the number of levels in procedures, one-stop shop for coordinating all levels

Currently no method has been determined for coordinating all the levels for obtaining permits for energy structures, nor has it been ensured that applicants would be given any advance notice of the timetable for the processing of their applications. Through the computerisation of processing applications for permits for new RES plants and providing assistance to applicants relating to applications for permits (point (g)) and through the establishing of a spatial information system, improvements will also be made to the method of coordinating all the levels involved in obtaining permits and to access for applicants to information on the processing of their applications. The service should be set up between 2015 and 2020.

Proposals for a method of coordinating the levels for obtaining permits and reporting to applicants on the timetable for processing their applications will be drawn up by the ministry responsible for public administration and the ministry responsible for the environment and spatial planning, and should be formulated in 2015.

Number of levels in procedures and average time for applicants to receive permits

Type of plant or infrastructure	Adopted spatial plan (municipal or national)	Water rights/mining rights	Environmental permit	Environmental impact assessment – environmental consent	Construction permit	TOTAL
Hydroelectric stations	-	8 months	-	• 1 MW_t 8 months	2 months	18 months
Wind generators	-	-	-	• 10 MW_e in protected areas >0,5 MW_e 10 months	2 months	12 months
Geothermal energy source	-	6 months for use of thermal or mineral and thermal groundwater and for exploitation with reinjection	-	• 30 kW_t 10 months	2 months	18 months
Thermal, thermal CHP and heat stations running on biomass or biofuel	-	8 months for use of water for cooling	• 1 MW_t 6 months	• 50 MW_t 8 months	2 months	from 16 to 24 months
Thermal and thermal CHP stations running on solid fuel from non-hazardous waste and non-hazardous waste incinerators	-	-	6 months	8 months	2 months	16 months
Plants for producing biofuel from biomass	-	-	4 months	8 months	2 months	14 months
Electricity transmission lines	-	-	-	8 months for • 110kV and length of 5 km in settled or protected areas	2 months	from 2 to 10 months
Distribution network for heating and cooling	-	-	-	8 months for pipeline diameter of 800 mm and length of 40 km or for pipeline diameter of 500 mm and length of 5 km in protected areas	2 months	from 2 to 10 months
Plants for decentralised production of electricity, heating and cooling – less	-	6 months for hydroelectric station not	6 months for energy processing of	-	2 months	from 2 to 14 months

complex structures		connected to the grid or for use of water for cooling	biowaste			
Plants for decentralised production of electricity, heating and cooling – major maintenance works	-	-	-	-	-	-

The deadlines for obtaining permits or consent apply to the time from submission of a complete request for a permit or consent up to the issuing of the relevant decision by the administrative authority.

(i) Specificities of different renewable energy technologies

In procedures for issuing permits, account is taken of the specific features of different technologies for obtaining energy from renewable sources as follows:

- in the allocation of water rights for using water to generate electricity in hydroelectric stations, the conditions for acceptable impact on the water regime, taking into account the ecological state of the water and impacts on already allocated water rights,

- in the allocation of water rights for the use of thermal or mineral and thermal groundwater to exploit geothermal energy, the conditions for acceptable consumption in view of the impact on the quantitative and qualitative state of groundwater and impacts on already allocated water rights,

- in allocating mining rights for exploiting geothermal energy with reinjection, the conditions for acceptable impacts on groundwater aquifers and the impacts on already allocated mining rights,

- in issuing environmental permits for the emission of substances into the environment for thermal power stations, thermal heat and power stations and heat stations running on biomass or biofuel, the level of existing pollution, primarily of ambient air,

- in issuing environmental permits for plants producing biofuel from biomass, the existing state of the environment at the location for the physical placement of the plant,

- in issuing construction permits for plants and infrastructure, the complexity of the construction,

- in issuing nature protection consent for plants and infrastructure in protected areas, the extent of impacts on the natural environment and the sensitivity of the environment in protected areas.

(j) Specific procedures for small-scale, decentralised installations

For the installation of small-scale, decentralised equipment (such as solar collectors on buildings or biomass boilers in buildings) on or at structures, there is no need to obtain a construction permit, nor is there even any need to notify the administrative authority of such installation, where this involves major maintenance works that do not encroach on the

construction of the structure and do not alter its capacity, size, purpose and external appearance, or that are in accordance with the valid spatial plan. Amendment of the regulations governing energy infrastructure will serve to define in greater detail the conditions for major maintenance works on structures.

(k) Publication of fees associated with applications for new installation permits

The fees associated with applications for new installation permits are governed by the Administrative Taxes Act – ZUT (Off. Gaz. RS, No. 8/00, 44/00, 81/00, Zvet-1-33/01, ZZVR-1-45/01, 42/02, 18/04, 91/05, ZPCP-2-131/06, 14/07, 126/07). Fees are associated with the administrative costs of approving such permits. No adjustment of these fees is planned.

(l) Official guidance for planning, designing, building and refurbishing of industrial and residential areas for the installation of equipment and systems for renewable energy sources

There are no official guidelines available to local and national administrative authorities for planning, project design, construction and renewal of industrial and residential areas for the installation of equipment and systems using RES in electricity supply and for heating and cooling, including district heating and cooling.

A detailed analysis is being drawn up regarding the prospects for adopting and applying urban planning and technical guidelines for planning, project design, construction and renewal of industrial and residential areas for the installation of equipment and systems using RES in electricity supply and for heating and cooling, including district heating and cooling.

The ministry responsible for spatial planning and the ministry responsible for energy are the bodies with primary responsibility for analysing the prospects for adopting and applying urban planning and technical guidelines for planning, project design, construction and renewal of industrial and residential areas for the installation of equipment and systems using RES in electricity supply and for heating and cooling.

(m) Training case handlers for issuing permits, certification and licensing for RES installations

The training programmes for persons managing administrative procedures for obtaining permits and granting the relevant consent are being supplemented with information relating to installations using renewable energy sources.

A detailed analysis is being drawn up of the need for special training for persons managing procedures for issuing permits in connection with installations using RES.

The analysis on the form and method of training persons who manage procedures for issuing permits relating to installations using RES is the task of the ministry responsible for the environment and spatial planning and the ministry responsible for public administration. Based on this analysis and the proposed forms and methods of training, programmes and plans for training case handlers are expected to be formulated between 2011 and 2013.

4.2.2 Technical specifications

(a) Required standards of quality for RES installations in support programmes

In the area of promoting the use of wood biomass for energy, certain indicators are required, and these are stricter than usual. Wood biomass boilers intended for industrial use and district systems must meet the requirements regarding emissions and efficiency.

Rated heat output 150 - 300 kW [3] > 300 - 500 kW • 0,5 - 1 MW • 1 - 2 MW • 2 - 5 MW

	Limit values [mg/Nm^3]				
CO	380	250	250	150	150
NOx	250	250	250	250	200
CxHy	45	20	20	10	10
Dust	100	100	80	80	20

The limit values are calculated for dry flue gas at 0 °C, 1013 hPa and 13% concentration of oxygen for plants with a rated heat output of < 1 MW_t or 11% concentration of oxygen for plants with a rated heat output of 1 MW_t or more.

Evidence of fulfilment of the emission requirements is provided by the first measurements in accordance with the Rules on the first measurements and operational monitoring of emission of substances into the air from fixed sources of pollution and on the conditions for its implementation (Off. Gaz. RS, No. 105/08).

The efficiency of wood biomass boilers intended for industrial use and district systems must be at least 86% at the rated heat output.

For wood biomass boilers for households, the efficiency requirements is at least 90%, with dust emissions limited to 50 mg/Nm^3, and emissions of CO to 750 mg/Nm^3.

As for heat pumps for heating residential buildings, subsidies are aimed at all heat pumps for the preparation of sanitary hot water and for heating. Heat pumps must show the prescribed heater figures as shown in the reports of European certification institutions.

4.2.3 Buildings

(a) Legislation relating to increasing the share of RES in buildings

- Rules on efficient use of energy in buildings, Off. Gaz. RS, No. 93/08, 47/09;
- Rules on the methodology and content of feasibility studies for alternative systems of energy supply for buildings, Off. Gaz. RS, No. 35/08;
- Rules on the methodology and issuing of building energy IDs, Off. Gaz. RS, No. 77/09.

(b) Ministries/authorities responsible for RES in buildings

The Ministry of the Economy is responsible for the area of using renewable energy sources in buildings.

[3] For heating appliances up to a maximum of 300 kW of rated heat capacity, a type report on measurements made by an accredited institution may be submitted as evidence of adherence to the limit values.

(c) Planned revisions of legislation

Amendment of regulations in the area of RES in buildings is performed on an ongoing basis, in line with the identified need to improve the situation in this field. Amendments are being drafted for the Rules on efficient use of energy in buildings, which will gradually tighten up the obligation to use RES by 2020 in new and existing buildings. The revised Rules will set out the obligatory gradual transition from fossil fuels to RES in heating all kinds of buildings, including connection to district heating systems operating on RES.

(d) Summary of existing and planned measures at the national/local level

Amendments to legislative provisions on the level of individual buildings are included in the draft Rules on efficient use of energy in buildings, which is an implementing regulation pursuant to the Construction Act (competence held by the Ministry of the Environment and Spatial Planning). The draft Rules are currently in the notification procedures, which will last until the end of June 2010, whereupon the rules will be adopted. Article 16 of the draft Rules lays down:

(1) Energy efficiency of a building is achieved where in addition to the requirements in Article 6 of these Rules, at least 25% of the entire final energy for operating systems in the building is provided through the use of renewable energy sources in the building.

(2) The requirement given in paragraph (1) is also fulfilled when the share of final energy for heating and cooling the building and for preparing hot water is obtained in one of the following ways:

- at least 25% from solar radiation,
- at least 30% from gaseous biomass,
- at least 50% from solid biomass,
- at least 70% from geothermal energy,
- at least 50% from ambient heat,
- at least 50% from high-efficiency CHP plants under the regulation on support for electricity produced in the high-efficiency cogeneration of heat and power,
- the building is supplied to at least 50% from an energy-efficient district heating/cooling system.

(3) The requirement given in paragraph (1) shall be deemed to be fulfilled if the permitted annual required heat for heating the building, calculated per unit of conditioned surface area or surface area of the building is at least 30% lower than the limit value given in Article 6 of these Rules.

(4) For single-residence buildings, the requirement given in paragraph (1) shall be deemed to be fulfilled if it has at least 6 m (panel surface) of solar collectors with an annual yield of at least 500 kWh/(m^2a).

Amendments on the level of local communities (municipalities) are included in the Act Amending the Energy Act (Off. Gaz. RS, No. 22/10), which provides that in their general and individual acts, local communities must determine the method of heating, with priority given to the use of RES or efficient CHP generation.

(e) Legislative definition of the obligatory share of RES in buildings

The valid Rules on efficient use of energy in buildings (REUEB) prescribe the requirements in the area of energy efficiency of buildings and the use of renewable energy sources, and these are reflected in the requirements for better heat insulation and the installing of more energy-efficient appliances and systems, as well as in the obligatory use of RES in the extent of at least 25% of the necessary capacity of appliances for heating, ventilation, cooling and hot and drinking water, which must be ensured through the active use of ambient heat, solar radiation, biomass, geothermal energy and wind energy, or through connection to plants for obtaining heating or cooling based on RES outside the building, or alternatively the installation of at least 6 m^2 of solar energy collectors per dwelling, or the installation of solar cells with a rated output of 5 W per metre of useful building surface. In accordance with the REUEB, only the construction of low-energy houses is permitted (e.g. the estimated heat required for heating is 2-25 kWh/m^2 a year).

In major building renovations, the REUEB requires adherence, by analogy, to the minimum requirements for new constructions, where the value of renovation works exceeds 25% of the value of the building excluding land, or it directly requires additional heat insulation of roofs or walls, where renovation or maintenance works are carried out on more than 40% of the surface of individual external walls or roofs.

(f) Estimated share of RES in buildings

Table 6 Estimated share of RES in buildings

[%]	2005	2010	2015	2020
Residential	32.6	38.9	49.0	54.1
Commercial	11.4	21.0	31.4	41.1
Public				
Industrial	17.1	18.0	19.8	22.1
Total	21.8	26.7	32.2	36.1

(g) Obligatory share of RES in new and refurbished buildings

The national policy for renewable energy sources takes into account the obligatory shares of RES in new and refurbished buildings, and these are at least on the level of RES set out in the REUEB.

(h) RES in public buildings

Slovenia can meet the requirements for energy efficiency, reduced import dependence for energy and reduced greenhouse gas emissions primarily through the heat rehabilitation of existing buildings, especially residential buildings.

It is not realistic, however, to expect the heat improvement of all buildings in a short time. The costs of heat rehabilitation of buildings, whereby Slovenia would significantly reduce its CO_2 emissions, are relatively high, but they have an important multiplication effect, since in the long term they reduce the costs of living, they lower Slovenia's energy dependence and the costs of importing fuel, and thereby the contribution of oil prices to inflation. Moreover, throughout Slovenia it is possible to offer employment in these activities to disadvantaged workers. Buildings with good heat insulation become ideal for the use of RES, which have no emissions and are inexhaustible. Investment in the heat insulation of buildings is long-term, and will benefit primarily future generations.

Preparations are under way to set up a system for renovating buildings in state ownership (the target being "zero-energy" buildings that use RES for their needs). The Public Fund for Property Management (being established) will open a technical office for drawing up projects of energy renovation of public buildings.

(i) Incentives for RES in buildings

There are programmes in place through which non-returnable funds are available to promote the installation of wood biomass boilers and solar systems. Heat pumps are eligible for subsidies if they meet the prescribed criteria of energy efficiency. Non-returnable funds are intended mainly for households.

Under the Cohesion Fund, a programme of incentives has been set up for public buildings (hospitals) in 2010 in the form of non-returnable funds for the installation of solar systems, wood biomass boilers and heat pumps. Public buildings will only be able to receive incentives if they are first subjected to complete energy rehabilitation.

For legal and natural persons, there is also a programme of favourable loans from the Eco Fund for the use of technologies to produce heat from RES.

In accordance with Directive 2006/32/EC, Slovenia will introduce financial instruments that have been tested for the promotion of energy saving in district heating and in connecting RES to existing energy product networks for heating and for heating systems using RES, in the form of financing from third parties, contractual assurance of energy saving and external supply of energy.

4.2.4 Information and awareness-raising

(a) Legislation relating to the requirements for information and awareness-raising

With regard to the requirements for providing information and awareness-raising, the valid legislation is not adequate.

In accordance with Article 14 of Directive 2009/28/EC, Member States must ensure that information on support measures is made available to all relevant actors, such as consumers, builders, installers, architects, and suppliers of heating, cooling and electricity equipment and systems and of vehicles compatible with the use of energy from renewable sources. It must also be ensured that information on the net benefits, cost and energy efficiency of equipment and systems for the use of heating, cooling and electricity from renewable energy sources is made available either by the supplier of the equipment or system or by the national competent authorities. Equally, information must be made public regarding certification schemes or equivalent qualification schemes for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps. To this end, a list of qualified or certified producers and suppliers of equipment and of installers may be made public. The provisions of Article 14 of Directive 2009/28/EC will be transposed into Slovenian legislation through amendment of Article 68 of the Energy Act.

(b) Responsible authorities for information and awareness-raising on the national/local level

In accordance with the amended Article 66 of the Energy Act, the ministry responsible for energy is implementing on the national level programmes to promote efficient use of RES, it is drawing up proposals and implementing national stimuli for efficient use of RES, it is drafting relevant regulations to promote the exploitation of RES, it is monitoring energy efficiency and the fulfilment of renewable source exploitation, and the associated reduction in the environmental burden, and it is promoting the operation of non-governmental organisations working in the public interest in the field of energy. Self-governing local communities are carrying out programmes of efficient exploitation of RES as part of their competence based on local energy concepts, wherein for the implementation of these programmes they can obtain state incentives if they have a formulated local energy concept.

(c) Summary of existing and planned measures on the national/local level

Article 66 of the Energy Act needs to be amended so as to make the ministry responsible for energy the competent authority for disseminating information on systems of certification or uniform systems of qualification for installers of small-scale biomass boilers and stoves, solar photovoltaic, solar thermal and shallow geothermal systems and heat pumps, as well as on the list of qualified or certified producers, suppliers and installers of equipment.

(d) Information on support measures for using RES

The Ministry of the Economy is responsible for the adequacy and publication of information on support measures for using RES to produce electricity, for heating and cooling and in transport.

A general promotional programme is being prepared on efficient energy use and RES, and this includes all types of energy users. Enhancements and implementation will continue on the EnSvet energy advice project, which offers households free advice on energy-efficient use of renewable energy.

There are no special sources of information available for different target groups such as end-users, builders, property managers, real estate agents, installers, architects, equipment suppliers and public administration. The available material needs to be updated.

Specialised material needs to be produced for individual groups of actors, along with targeted campaigns, and permanent information centres, which are not yet in operation, need to be set up.

(e) Information on net benefits, costs and energy efficiency of equipment and systems for RES

In accordance with Article 67.a of the Energy Act, system operators and suppliers of energy and fuels must, at least once a year and in a clear and intelligible form, provide information to final consumers on the legal and natural persons that offer information on efficient use and renewable energy sources, including website addresses where information can be obtained on the available measures to improve energy efficiency, the exploitation of RES, systems for cogenerating heat and power, comparative diagrams of end-user consumption and/or impartial technical specifications for equipment and products that use energy.

In accordance with Article 68 of the Energy Act, producers and importers of products that require fuels, electricity or heat for their operation, must in the technical specifications of such products indicate the consumption of fuels or energy for operating the equipment under typical operating conditions, and they may furnish products with energy efficiency labels informing buyers of energy consumption and other characteristics of products that are important for their energy efficiency.

(f) Guidance for planning renewable energy sources

In accordance with Article 65(4) of the Energy Act, the state draws up standards and technical regulations to promote the use of RES.

In accordance with Article 68.a of the Energy Act, in constructing new buildings whose useful ground plan area exceeds 1000 m^2, and in the reconstruction of buildings in which the system of energy supply is being replaced and the useful ground plan area exceeds 1000 m^2, a feasibility study of alternative systems of energy supply must be ensured. The study must take into account the technical, functional, environmental and economic feasibility of alternative energy supply systems. Alternative systems are deemed to be: decentralised systems based on RES, cogeneration of heat and power, district or communal heating or cooling, if available, and heat pumps.

Adequate guidelines need to be drawn up for planning RES as part of the obligatory local energy concepts. Guidelines will be aimed at planners and architects so as to help them in planning to incorporate the best combination of RES, high-efficiency technology and district heating and cooling in planning, designing, constructing and renewing industrial or residential areas.

(g) Existing and planned programmes of informing, raising the awareness of and training citizens on the benefits and practicalities of development and use of energy from renewable sources

In accordance with Article 65 of the Energy Act, through programmes of education, information, public awareness-raising, energy advice, promoting energy inspections, promoting local energy concepts, drawing up standards and technical regulations, fiscal measures, financial incentives and other forms of stimulus, the state supports measures for efficient energy use and exploitation of RES. In this, energy advice for efficient use in broad consumption may be organised through the existing network of energy advice offices.

In accordance with Article 66 of the Energy Act, the ministry responsible for energy implements programmes to promote the exploitation of RES, while self-governing local communities implement programmes for exploiting RES as part of their competence based on formulated local energy concepts. For the implementation of these programmes, self-governing local communities may obtain national incentives, if they have a formulated local energy concept.

In accordance with Article 66.a of the Energy Act, under public authority the providers of commercial public services carry out programmes to reduce energy consumption from individual networks or to increase the efficiency of its consumption and the exploitation of RES.

4.2.5 Certification of installers

(a) Legislation relating to the certification of installers

A system of certification for installers of small-scale wood biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps, will be established as a mandatory system (installer's licence based on completing education and exam). The details will be set out in the new Energy Act (end of 2010).

(b) Authority responsible for establishing and approving the system of certification for installers

The authority responsible for establishing and approving systems of installer certification by 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps is the ministry responsible for energy.

(c) Establishing a system of certification for installers

Systems for certifying installers will be established by 2012.

(d) Information on systems for certifying installers

By 2012 the ministry responsible for energy will ensure that information on systems for certifying installers is available to the public, including publication of lists of certified installers.

(e) Planned measures on the national/local level

The Energy Act has no appropriate legal basis for certifying installers in accordance with Article 14(3) of Directive 2009/28/EC. Amendment of the Energy Act will serve to provide the legal basis for establishing and approving systems of certification/approval by 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps.

Pursuant to the amended Energy Act, installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps will have to take training and obtain a certificate of successful completion of the training programme.

Certificates of successful completion of the installer training programme may also be issued for the specific line of business of installing equipment to use RES. Training to obtain adequate skills as an installer of equipment for the use of RES will be carried out in accordance with the act governing vocational and professional education. In accordance with the act governing vocational and professional education, the ministry responsible for energy will ensure:

- the verification of knowledge of installers and the issuing of certificates of successful completion of the installer training programme,

- records are kept of issued certificates of successful completion of the installer training programme and records of authorised installers,

- records are kept of persons providing the installer training programme,

- verification of the conditions being met by persons providing the installer training programme and

- professional supervision of the implementation of the installer training programme.

It is envisaged that the ministry responsible for energy, on the basis of a public call for participation in implementing the programme of installer training, will select persons to provide the installer training programme and to issue certificates and keep records of trained installers.

The costs of training installers will be covered by authorised installer candidates, directly to the installer programme providers.

In accordance with the amended Energy Act and with the act governing vocational and professional education, the minister responsible for energy will determine the components of the installer training programme, the scope and procedure for verifying installer knowledge, the form and content of certificates of completion of the installer training programme, the resolving of complaints from authorised installer candidates, the method of reporting by installer training programme providers on the implementation of the programme, the keeping of records on issued certificates of successful completion of the installer training programme and the keeping of records on authorised installers.

4.2.6 Electricity infrastructure development

(a) Legislation relating to the electricity grid requirements

- Energy Act, Off. Gaz. RS, No. 27/07-UPB, 70/08, 22/10
- Rules determining the prices for using the electricity grid and criteria for the justification of costs, Off. Gaz. RS, No. 30/01, 103/01, 48/02, 109/02, 11/03, 134/03
- Act laying down the methodology for charging network fees and the methodology for determining network fees and the criteria for determining justified costs for the electricity grid, Off. Gaz. RS, No. 121/05, 126/08, 113/09
- Decision laying down the network fees for the use of the electricity grid and the correction factors for settling income from network fees, Off. Gaz. RS, No. 111/07, 126/08
- Decree on energy infrastructure, Off. Gaz. RS, No. 62/03, 88/03
- Decree on the tariff system for selling electricity, Off. Gaz. RS, No. 36/04
- Decree on maintenance works in the public interest in the area of energy, Off. Gaz. RS, No. 125/04, 71/09, 22/10-EZ-D
- Decree on the general conditions for the supply and consumption of electricity, Off. Gaz. RS, No. 117/02, (21/03 corrigendum), 126/07_(1/208 corrigendum)
- Decree on the method of providing the commercial public service of system operator of the electricity transmission network, Off. Gaz. RS, No. 114/04, 52/06, 31/07
- Decision determining the operator of the electricity transmission network in the Republic of Slovenia, Off. Gaz. RS, No. 54/00
- System operating instructions for the electricity transmission network, Off. Gaz. RS, No. 49/07
- General conditions for the supply and consumption of electricity from the electricity distribution network, Off. Gaz. RS, No. 126/07
- Decree on the method of providing the commercial public service of system operator of the electricity transmission network and the commercial public service of supplying electricity to tariff consumers, Off. Gaz. RS, No. 117/04, 23/07
- Decree on the concession for providing the commercial public service of system operator of the electricity transmission network, Off. Gaz. RS, No. 39/07
- Act establishing the limited liability company SODO, sistemski operater distribucijskega omrežja z elektri•no energijo d.o.o. [system operator of the electricity distribution network], Off. Gaz. RS, No. 27/07
- Decision determining the operators of the electricity distribution network in the Republic of Slovenia, Off. Gaz. RS, No. 54/00, 57/07
- Decision determining the prices of electricity supply for household consumers and the prices for covering the costs of the supplier in the supply of electricity, Off. Gaz. RS, No. 66/04, 38/05, 80/06, 27/07
- Rules on the system operation of the electricity distribution network, Off. Gaz. RS, No. 123/03

(b) Development of electricity transmission and distribution grids, taking into account the target quantities of electricity from renewable sources

Regular planning of the development of the transmission and distribution grids includes target quantities of electricity from diffuse renewable sources and ensuring quality and reliable supply of electricity. The regulatory framework for developing the transmission and distribution grids is defined by:

- Article 18 of the Energy Act, which provides that every two years, electricity network system operators must formulate plans to develop the grids for at least 10 years, and these plans must be harmonised with the National Energy Programme,

- the National Energy Programme, which pursuant to Article 13 of the Energy Act is the fundamental political document in the energy field, and defines long-term development goals including for the area of developing electricity grids, and contains trajectories regarding the targets for RES,

- Article 16 of the Energy Act, which provides that obligations under international treaties and agreements must be a constituent part of energy policy and planning for the development of energy activities.

(c) The role of intelligent network services, information technology and electricity storage

In view of the increasing connection of renewable and diffuse sources of energy to the electricity grid, the structure of the electricity grid needs a fundamental change. It will be necessary to enable a reliable and safe connection of renewable and diffuse energy sources to the grid and the possibility of simple balancing of consumption and production of electricity. For maintenance, refurbishing and construction, distribution companies will have to use standardised technical rules and procedures. The introduction of active networks will facilitate adaptability (satisfying the needs of consumers with responses to their changes and requirements), accessibility (enabling connection to the grid for all users, especially to the generation of power from renewable and diffuse sources and high-efficiency local production with zero or low carbon emissions), reliability of electricity supply (ensuring and improving reliability and quality) and economy (improving value through innovations, efficient energy management, competition and regulation). Equally, it will be necessary to change the current complicated administrative procedures for the connection of renewable and diffuse sources of energy to the electricity grid through the introduction of simple, clear and safe standardised connection.

In connecting renewable and diffuse sources of energy, the concept of an active/smart network plays an important role, since it should ensure better scope for connecting up smaller units. The procedure for long-term introduction of the concept should comprise preparation of a strategic plan and several phases of implementation (introduction of smart meters and their connection to the system of progressive metering, designing new criteria for planning networks and methods of operation, aggregating diffuse sources into virtual power stations and including new technologies such as electric vehicles). Implementation of progressive systems has already started through pilot projects of installing progressive meters, and around 6% of consumers are equipped with these, and also through the preparation of a technical and economic analysis of implementing a system of progressive metering for all consumers.

(d) Reinforcement of the interconnection capacities for transmission lines with neighbouring countries

Reinforcement of interconnection capacities has already been envisaged for a decade with the neighbouring countries of Hungary and Italy.

(e) Acceleration of grid infrastructure authorisation procedures

In the construction and reconstruction of connections in the electricity system, placement in the physical environment has a major influence. The dynamic of placing electricity networks in the physical environment (in other words complete execution, from petition to construction) is too slow, especially owing to the slow drafting of spatial acts that provide the basis for their permitting. The main problems are:

- imprecisely defined objectives of the planned spatial arrangement;

- non-definition of the financial obligations of those in charge of spatial planning and transfer of management to the party in charge of spatial planning that issued the conditions;

- incomplete information regarding the start of preparation for the national spatial plan – petition, its content and annexes;

- lack of connection between the procedure for drawing up the national spatial plan and providing investment documentation for projects financed from the budget;

- a need to determine the obligatory parties in charge of spatial planning and to determine the criteria for resolving the conflicting interests of various departments;

- the urgent need to introduce confirmation of the selected variant by the Government;

- opposition to planned arrangements owing to the exercising of national and general public interests, local and interest-group interests, the political interests of a group or individual and the personal interests of individuals;

- non-adherence to the formal deadlines on the part of those in charge of spatial planning set out in legislation regarding guidelines and opinions;

- deficient expert basis for those in charge of spatial planning,

- systemic grey areas relating to records of real estate and its mass valuation (the existing legal order in the area of assessing the value of real estate and appropriate compensation for compulsory purchases or easements, and for expropriation procedures in the construction of public infrastructure in Slovenia, is not adequately established).

On the basis of the recorded problems and findings yielded by the analyses, a law has been drafted concerning the physical placement of spatial plans of national importance, and this should set in law specifically for this kind of infrastructure the procedure for preparing and adopting national spatial acts, which with their solutions would better link and steer the work of those in charge of spatial planning, while at the same time it would contain a logical sequence of all the stages necessary for drawing up a final national spatial plan, including the method of determining the value of real estate and compensation for expropriation and restriction of ownership rights, as well as compensation relating to preparatory works. This law will be adopted in 2010.

(f) Coordination between grid infrastructure approval and other administrative planning tasks

The current state of affairs is based on the original obtaining of an energy permit to produce equipment with a rated output of over 1MW_e, and for all consents for connection from the competent system operator, which is crucial for obtaining a construction permit and subsequent construction.

Better coordination needs to be achieved through improvements to the quality of plans to expand the grid, which would offer opportunities for the exploitation of RES. Furthermore, there is a need to carry out additional analysis and research (especially on the environment – the potentials and advantages here for exploitation of RES – determining ecological zones and other zones suitable for dispersed production), which would serve as a basis for high-quality and effective planning to construct the grid. Better prepared plans would thus provide a good basis for investors, who could decide more quickly to start the construction process, as well as for the system operator, who would thereby have a properly formulated and realistic basis for the issuing of consent.

(g) Ensuring the right to priority connection or special connection capacities for new installations generating electricity from renewable sources

Article 64.j of the Energy Act lays down the obligation of the system operators to connect up to the grid any generation plant operating on RES and holding a valid energy permit and consent for connection. The existing regulations do not bind system operators to ensure special additional grid capacities for generating plants operating on RES, about which at the time of network planning they are not yet aware.

(h) Limitations on the inclusion of preparatory equipment for RES in the system owing to grid capacity limits

There are no known cases of limitations on the inclusion of preparatory equipment for RES into the system owing to grid capacity limits.

(i) Establishing and publishing rules on cost sharing and bearing for technical adaptation of the grid

Article 64.k of the Energy Act provides that investors in generating plants operating on RES do not bear the costs of possible reinforcement of the transmission and distribution network. The costs of all analyses for the issuing of consent to connect to the grid are borne by the system operator. The costs of making up the equipment for connection to the grid are borne by the investor in the RES generating plant (Article 70 of the Energy Act). Article 64.m of the Energy Act provides that the system operator of the distribution network must, as part of the system operating instructions, draw up and publish the principles of determining connection points, the technical specifications required for plants and the standard rules for determining the costs of carrying out the connection of generating plants operating on RES with rated output of up to 10 MW_e. For generating plants operating on RES with rated output of more than 10 MW_e the technical requirements are determined in the energy permit for the individual plant, while at the request of the investor of such plant, within 60 days of receiving such request the system operator must formulate a comprehensive and detailed estimate of the costs of connection and a timetable for carrying out the grid connection. If the investor does not agree with the estimated costs and timetable, he may formulate his own connection proposal. There are no special rules for producers in marginal regions and regions with low population density.

(j) Attributing the costs of connection and technical adaptation to producers and/or operators of transmission and/or distribution networks

For system operators to achieve a regulated return depends directly on the actual operating costs of system operators compared to the eligible costs, which are defined by the Slovenian Energy Agency and form the basis for determining network fees. The network fees are regulated in such a way as to ensure adequate return at the same time as the required improvement in efficiency. Income from network fees on the part of the regulator are in no way, nor can they be, set at an amount where in addition to eligible costs of operation and maintenance and appropriate return, they would provide adequate sources for carrying out the planned investments. Carrying out investments is based on the adequate financial construction of sources, which in addition to depreciation and share of profits includes long-term loans.

For the connection of plants operating on RES, they only pay the costs of connection to the grid, which represents a “shallow” approach. The costs to the system operator of reinforcing the grid are socialised, and are covered by network fees. In the future there are no planned changes to these rules on the assumption of costs. Where connection of a power station causes disproportionate costs, connection may be carried out in cases where the investor or owner of the RES plant covers part of the disproportionate costs.

(k) Rules for cost sharing among initially and subsequently connected producers

There are no rules on the attribution of costs among producers who were connected to the grid at different time intervals. There are no benefits for producers who are connected to the grid subsequently. In the event of it being possible to connect a new producer to an existing connection for a RES generating plant, this is possible if that part of the connection becomes part of the system operator’s network. At that time a contract between the system operator and owner of the connection serves to regulate all the rights and obligations of the connection owner, as is laid down in the Decree on the manner of providing the commercial public service of system operator.

(l) Providing information on costs, a precise timetable for application processing and an indicative timetable for grid connection

The general conditions for supply and offtake of electricity and in the system operating instructions, which the system operator adopts and publishes, set out the rules for connection to the grid, the attribution of costs and the timetable for application processing, and these comply with the provisions of the Energy Act and the Decree on the method of providing the commercial public service of system operator. Publication of an indicative timetable for grid connection, which depends on:

- whether connection requires reinforcement of the system operator’s network and whether this is already foreseen in the current network development plan,

- the investor himself and his choice of provider,

- the dynamics of settling the ownership relationships along the path of the connection and fulfilment of environmental requirements in placing the transmission line in the physical environment prior to obtaining construction permits, while there are additional obstacles inherent in civil initiatives, which occasionally set up additional requirements,

has not been ensured.

4.2.7 Electricity network operation

(a) Guaranteeing transmission and distribution of electricity from RES

In accordance with Article 64.l(1) of the Energy Act, the system operators of the transmission (ELES) and distribution (SODN) networks must ensure the transmission and distribution of electricity generated from renewable energy sources.

(b) Priority dispatching of power stations operating on RES

Under the provisions of Article 64.l(2) of the Energy Act, the system operator must, within the scope of its activities of balancing the operation of the grid, dispatching units and within the possibilities of the system, give priority to power stations operating on RES.

(c) Implementation of grid and market-related operational measures, with the aim of minimising the curtailment of transmission of RES electricity

Currently owing to the small scope of sources, there are no limits on energy transmission. Connection, however, poses a problem. In accordance with Articles 64.k and 64.m of the Energy Act, the system operator of the distribution network is bound to provide an analysis for granting consent for connection to the grid, to grant consent and adequately reinforce the grid. In this, however, no source of funding is ensured. The legislative framework needs to be changed, since this will allow the SODN (or distribution companies) to apply in tenders for European funds and for funds to develop infrastructure for the connection of power stations using RES (for instance from funds for developing undeveloped areas), where the Slovenian Energy Agency must deal appropriately with funds obtained in this way, while at the same time depreciation and return would have to be admitted on infrastructure built with these funds.

The rules for connection have been formulated, but they will only become legally enforceable upon the issuing of the System Operating Instructions for the Electricity Grid (SOIEG), which set out the operating system for the electricity distribution network, define the service of electricity distribution through the grid, the method of ensuring system services on the grid, the operation and development of the distribution network and the technical conditions for connection to the grid. The SOIEG should be issued in June 2010.

The timely planning of adequate reinforcement of the grid and the inclusion of RES will require input data for making 10-year development plans and also adequate planning of RES in spatial plans on the national and local levels. The SODN will provide data on the capacity of the grid to include RES by June 2011.

(d) Informing the energy regulatory authority about the implementation of operational measures

In accordance with the Decree on support for electricity produced from renewable sources of energy, the SODN communicates the following data to the Slovenian Energy Agency each month:

- the number and total rated electricity output of generation installations from all applications received for connection consent,

- the number and total rated electricity output of generation installations that have been granted connection consent.

The Energy Agency publishes data on its website and is responsible for monitoring the implementation of measures.

(e) Integration into the electricity market of plants generating electricity from renewable sources

The Energy Act includes those producing electricity from RES in the electricity market, and also offers them certain advantages compared to other electricity producers. The implementation of the support scheme itself ensures for producers of electricity from RES for capacity up to 5MW_e, that they may choose for themselves whether they want guaranteed purchase of electricity, or they can opt to act independently in the market and use or sell their production themselves. Under the provisions of Article 64.n(10) of the Energy Act, producers that opt for support through guaranteed purchase do not bear the costs of settling the difference between forecast and actual production, since this is the responsibility of the Support Centre at Borzen, the organiser of the electricity market. Pursuant to Article 35 of the Decree on the manner of providing the commercial public service of organising the electricity market (Off. Gaz. RS, No. 8/09), the Support Centre formulates an ECO balance sheet group for regulating the balance sheet affiliation of those eligible for guaranteed purchase for settling the difference between forecast and actual production. Other producers that receive operating support but sell their electricity themselves, must regulate their balance sheet affiliation and the settling of differences between forecast and actual production themselves in line with the rules for the operation of the organised electricity market.

The Energy Act also regulates inclusion in the market for RES generating plants that are new and have not yet obtained a declaration for a generating plant and decision allocating support, as well as for old RES generating plants that are no longer eligible for support.

For the former, Article 64.n((12) of the Energy Act provides that if they are entering into the guaranteed purchase system, they may on the basis of a written application to the Support Centre, sell their generated electricity to the Support Centre at the reference market price. Paragraph 11 of Article 64.n of the Energy Act provides that producers who, owing to the age of their RES generating plants with capacity up to 5 MW_e, are no longer eligible for support, may request the Support Centre to purchase the electricity they are not using themselves at the same price as the Centre sells it, and to be responsible for settling the difference between forecast and actual production, while these producers bear the costs of this in proportion to the sold energy.

(f) Charging transmission and distribution tariffs to generators of electricity from RES

In accordance with the “Methodology for charging network fees and the methodology for determining network fees and the criteria for establishing eligible costs for the electricity grid”, for the use of the grid in Slovenia, the system operator only charges the final consumer the network fee for the use of the electricity grid. Electricity generators do not pay for use of the grid.

4.2.8 Biogas integration into the natural gas network

(a) Charging transmission and distribution tariffs for biogas in the natural gas network

In substantive terms, no legislative act directly discriminates against biogas. In the event of biogas matching the properties of natural gas, it would be treated the same way as natural gas. So the same price could be charged for its transportation (transmission and/or distribution). The limitation, however, is that all legislation, except the rules covering the technical conditions for construction, operation and maintenance of gas pipes, talk only of natural gas. Ensuring non-discrimination against high-methane biogas would require the Energy Act to determine a legal basis according to which the treatment of biogas would be equated with natural gas. This aspect will be studied in the drafting stage for the revised Energy Act, specifically by the summer of 2010. Moreover, by 2010, implementing regulations will define the required quality of biogas for integration into the natural gas network.

(b) Assessment of the need to extend the natural gas network to integrate biogas into the network

No such assessment has been carried out yet. Extension of the network (distribution, but not transmission) might "possibly" be dictated by the geographical position of the biogas plants seeking to put biogas into the network, and also of course by the economics of costs and benefits. Taking into account the planned scope of implementing biogas facilities and the financial efficiency of converting biogas at source into electricity, an assessment of the need to extend the natural gas network to accommodate biogas is not planned. However, a legal framework and incentives will also need to be prepared for this possibility.

(c) Technical rules on network connection and network tariffs for biogas

Integration of biogas into the natural gas network will be regulated through amendments to the Energy Act. The technical rules on network connection and tariffs for connecting biogas will be regulated by appropriate implementing acts by 2011. The responsible administrative authority is the ministry responsible for energy.

4.2.9 District heating and cooling infrastructure development

The main objective of the subprogramme of the new National Energy Programme in the area of local energy is to formulate, adopt, and implement intensive development strategies for local energy, relying on high-efficiency cogeneration of heat and power, RES and district heating and cooling systems. The operational objectives of the subprogramme are as follows:

- high-efficiency cogeneration of heat and power (CHP)[4] or the use of RES in all local and district heating systems, with the target of achieving at least an 80% share of the production of useful energy from these sources by 2020 in district heating systems;

[4] Cogeneration only from low-carbon sources: especially RES, natural gas and gradually alternative sources (e.g. hydrogen).

- a minimum 20% share of RES in existing district heating systems running on fossil fuel by 2020;

- an increased share of local and district heating in the structure of final energy consumption, despite reduced use of final energy;

- construction of new systems of local and district heating based exclusively on high-efficiency CHP or RES and waste heat from industrial processes from 2012;

- in all new and refurbished buildings with heat offtake over 250 kW_t mandatory use of CHP, RES or district heating, where this is technically feasible and economically advisable;

- setting up at least five district cooling systems by 2015;

- the transition of five municipalities to 100% energy supply from RES by 2020, and 20 municipalities by 2030;

- in the public sector and all buildings financed from public funds, ensuring heat from CHP, RES or local and district heating systems:

    - in new buildings and major building refurbishments, from 2012;

    - transition of all existing buildings to such method of heating (40% of buildings by 2020 and 80% by 2030).

Achieving these goals will require the refurbishing and construction of new machinery to generate heat and cooling, as well as the accelerated development of district heating and cooling networks and the connection of new users to these networks in the period 2011-2016.

Based on the above assessment there are plans to amend the legislative framework governing this field and to promote infrastructure for district heating and cooling, both on the local distribution level and on the micro distribution level. Incentives are envisaged on the level of eliminating administrative barriers, as well as financial incentives for investment. In this way an administrative barrier has been eliminated in the latest revised version of the Energy Act (EZ-D, Off. Gaz. RS, No. 22/10) through simplification for micro and small district heating systems in terms of pursuing the activity in the case of using renewable sources of heat.

The financial incentives currently available are defined in the Operational Programme for Developing Environmental and Transport Infrastructure. Cohesion Fund financing is being used in the form of non-returnable subsidies to promote district heating systems operating on wood biomass (solar collectors are also included as an eligible cost) as well as large wood biomass boilers in industry. The two tenders for allocating these subsidies include expansion of the district heating networks, construction of new biomass boiler rooms and replacing boilers in existing rooms. There are also plans for a tender for district heating using geothermal energy (tender in 2010, implementation in 2011).

4.2.10 Biofuels and other bioliquids – sustainability criteria and verification of compliance

(a) Sustainability criteria for biofuels and bioliquids

Implementation of sustainability criteria for solid and liquid biofuels requires amendment of the Energy Act such that the act will regulate the conditions for placing on the market only for those liquid fuels that meet sustainability criteria, and will regulate the verification and confirmation of compliance with the prescribed requirements of the sustainability criteria, inspection and implementation of special procedures for acknowledging the compliance of liquid fuels.

(b) Legislative framework for solid and liquid biofuels meeting sustainability criteria

The legal framework for monitoring and verifying fulfilment of sustainability criteria for solid and liquid biofuels will be provided through amendment of the Energy Act.

(b) Implementation of sustainabiilty criteria fulfilment for solid and liquid biofuels

The amendments to the Energy Act envisage the following legislative solutions for monitoring and verifying fulfilment of sustainability criteria for solid and liquid biofuels:

1. the producer of the solid or liquid biofuel is responsible for confirming the compliance of the solid and liquid biofuel with the required sustainability criteria. Prior to confirmation of compliance, the suitability of solid or liquid biofuel is determined by testing and verification of the source of the input biological raw materials. The producer must carry out the procedure of determining and confirming compliance in cooperation with the authority involved in confirming the compliance of solid and liquid biofuels;

2. the authority involved in confirming the compliance of solid and liquid biofuels is the certification authority, and this may be a state body or any other legal person;

3. the procedures carried out to determine the compliance of solid and liquid biofuels are the basis for confirming the compliance of biofuels with the prescribed sustainability criteria, and this is performed with a certificate of compliance of the solid or liquid biofuel issued by the certification authority;

4. the minister responsible for energy prescribes the content of the documents of compliance for solid and liquid biofuels. In accordance with the general regulations on determining the compliance of products, the minister responsible for energy [...] [Translator's Note: there is a verb missing here in the original Slovenian text. 'issues certficates' (?)] to those bodies involved in confirming the compliance of solid and liquid biofuels established in Slovenia which meet the following requirements:

- they possess the necessary means and equipment,

- they have personnel professionally trained and demonstrating professional integrity at their disposal,

- they assure the independence and impartiality of personnel and expert staff in relation to legal and natural persons directly or indirectly linked to the construction product whose compliance is being confirmed through testing, the preparation of reports, issuing of certificates of compliance and inspection,

- they guarantee business confidentiality,

- their work is insured against liability, except in cases where liability is insured by the state pursuant to the law.

(d) Accessibility of information on land zoning and national land register

Information that may be relevant for verifying compliance with the requirements of Directive 2009/28/EC are for:

- protected areas and other areas identified for the preservation of biodiversity, accessible on the website

- http://gis.arso.gov.si/atlasokolja/profile.aspx?id=Atlas Okolja AXL@Arso,

- the state of land use (forest, agricultural land etc.) accessible on the MAFF web portal (http://rkg.gov.si/GERK/viewer.jsp), and there they are also summarised on the spatial planning portal Prostor (http://prostor2.gov.si/javni/login.jsp?jezik=sl), and

- eligible use of land (including eligible use of forest and farmland) on the municipalities portal PISO (http: //www.geoprostor.net/PisoPortal/Default.aspx).

(e) Accessibility of information on protected areas

Information on the national, European or international system of protection in which protected areas are classified is accessible for each individual protected area on the website http://gis.arso.gov.si/atlasokolja/profile.aspx?id=Atlas Okolja AXL@Arso.

(f) Changing the status of land

The status of land (protected area under the regulations on nature conservation) is determined by regulations adopted by the Slovenian National Assembly, the Government or municipal council.

Records of protected areas are kept by ARSO and are accessible on the website http://gis.arso.gov.si/atlasokolja/profile.aspx?id=Atlas Okolja AXL(g),Arso.. Records of protected areas are updated each time the regulation is amended.

(g) Compliance with good agro-environmental practices

The Slovenian Agency for Agricultural Markets and Rural Development is tasked for the purposes of the scheme of direct aid to farmers under the common agricultural policy in accordance with Council Regulation 2009/73/EC, ensuring and verifying compliance with the requirements and standards pursuant to the provisions of the title “Environment” in part A and point 9 of Annex II and the minimum requirements for good agro-environmental practices defined pursuant to Article 6(1) of the quoted regulation.

Implementation of the relevant provisions in Slovenia is also set out in the Government Decree on the prescribed requirements and good agricultural and environmental conditions in farming (Off. Gaz. RS, No. 7/10). This decree defines the requirements that farmers must meet in the event of receiving direct payments in agriculture within the first pillar of the common agricultural policy, and receiving funds for environmental measures and investments in the countryside as part of the rural development programme.

Monitoring of the fulfilment of cross-compliance is carried out with at least 1% of eligible persons, who are selected on the basis of risk analysis. Monitoring is carried out throughout the year.

(h) Contribution of Slovenia to developing the voluntary system of certification for the sustainability of solid and liquid biofuels

Slovenia is striving for the conclusion of agreements between the Community and third countries containing provisions on sustainability criteria matching those in Directive 2009/28/EC. These agreements between the Community and third countries must demonstrate that motor biofuels and other liquid biofuels produced from raw materials made in those countries fulfil the relevant sustainability criteria.

4.3 Support schemes to promote the use of energy from renewable sources in electricity

System

(a) Legal basis

Pursuant to Directive 2001/77/EC and Slovenia's Treaty of Accession to the EU, the Resolution on the National Energy Programme ReNEP (Off. Gaz. RS, No. 57/04) defines the target up to 2010, that is, an increase in the share of electricity obtained from renewable energy sources, relative to gross consumption of electricity, to 33.6%.

Owing to the non-fulfilment of targets, in 2008 reform was initiated through amendment of the Energy Act. The Act Amending and Supplementing the Energy Act (EZ-C, Off. Gaz. RS, No. 70/08) set out in articles 64.a to 64.s the framework for a new support scheme for electricity generated from RES. Several implementing acts were adopted for the implementation of the support scheme, and of these the most important are the Decree on issuing declarations for production facilities and certificates of origin for electricity (Off. Gaz. RS, No. 8/09) and the Decree on support for electricity generated from renewable sources of energy (Off. Gaz. RS, No. 37/09, 53/09, 68/09, 76/09 and 17/10).

(b) Technology-specific targets

In this phase, when the new National Energy Programme has not yet been adopted, technology-specific targets have not yet been set. There are restrictions on promoting technology for generating electricity from renewable sources where the costs of generation exceed the reference costs recognised under the support scheme for generating electricity from RES for solar energy installations. Equally an annual quota has been set, whereby new decisions allocating support may only be issued up to 5 MW_e of total rated output for photovoltaic RES generating installations placed outdoors.

(c) Annual targets

Obligations have not been set on the level of annual targets.

(d) Those required to achieve the targets

There are no entities required to achieve the targets.

(e) Consequence of non-fulfilment

There are no consequences of non-fulfilment.

(f) Mechanism for supervising fulfilment

The mechanism for supervising fulfilment of the programme targets on the national level is the regular annual report on implementation of the National Energy Programme – Annual Energy Overview for individual years, prepared by the ministry responsible for energy.

(g) Mechanism for modifying targets

There is no special mechanism for modifying the targets of the programme.

Financial support

(a) Name of scheme

Support for electricity generated from renewable energy sources

The support scheme is an overhauled scheme of support for qualified producers of electricity from RES that was started in 2002. The changes are the consequence of harmonising the national legal order with EU regulations in the following areas:

- harmonisation of the Energy Act with commitments given by Slovenia in the process of the European Commission's investigation related to "qualified producers" and support for domestic producers of electricity from domestic fossil energy products, expressed in the Commission Decision of 24 April 2007 on the state aid scheme being implemented by Slovenia within the scope of its legislation on qualified producers of energy, case No. C 7/05 (2007/580/EC);

- the arrangement of support for power stations operating on RES in line with the new Guidelines on state aid for environmental protection (2008/C82/01) and;

- the aspiration to establish a stimulative investment environment for new projects.

Support for electricity from generating plants using RES is as follows:

- guaranteed purchase of electricity (hereinafter: guaranteed purchase). Pursuant to this support, irrespective of the price of electricity in the market, the support centre buys all the acquired net electricity produced, for which the generating plant using RES has received certificates of origin, at guaranteed prices set out in the Decree on support for electricity generated from renewable sources of energy (Off. Gaz. RS, No. 37/09, 53/09, 68/09, 76/09 and 17/10);

- financial aid for current operations (hereinafter: operating support). This support is allocated for net electricity production for which a certificate of origin has been received and which RES electricity producers sell themselves in the market or use for their own offtake, provided that the costs of producing this energy are greater than the price that can be obtained for it in the electricity market.

Generating plants using RES with a rated output of up to 5 MW_e are eligible for guaranteed purchase of electricity. For such generating plants, during the validity of the contract on guaranteed purchase the support centre regulates the registration of the operating forecast and balances the difference between the forecast and actual production, including the balance sheet affiliation. Generating plants using RES with the coincineration of wood biomass are not eligible for guaranteed purchase, irrespective of the size bracket of the plant.

Generating plants using RES with a rated power output of up to 5 MW_e may decide, instead of guaranteed purchase, to sell electricity independently in the market, and to receive support as operating support, where they must themselves arrange the registration of their operating forecast and settling the difference between forecast and actual production, including balance sheet affiliation. Generating plants using RES with rated output of 5 MW_e and more may receive only operating support.

The duration of support is defined in the decision allocating support, and is 15 years for new generating plants using RES.

Support is paid out for net electricity production for which the support centre receives certificates of origin.

Those eligible for support who can choose the method of support they receive, communicate their decision on the method of support provision in their applications for a decision allocating support sent to the Energy Agency.

The level of guaranteed purchase prices for electricity are the same as the reference costs of electricity generation for the individual production technologies and size classes. The price in the contract on guaranteed purchase, where the input energy product does not represent a cost, is formulated only from the invariable portion of the price, but at generating plants using RES where the input energy product represents a cost, it is also formulated from the variable portion of the price, in the same proportion as the invariable and variable portions of the reference costs.

Operating support is the difference between the reference costs of producing electricity in individual types of generating plants and the reference market price of electricity.

If on the basis of the Slovenian Energy Agency's forecast reference market prices of electricity it is determined that the price of electricity in the market, where account is also taken of the characteristics of operating individual types of generating plant, is higher than the reference costs of electricity production applying to the period in question, operating support for electricity for the period in question is not paid.

Eligibility for support is held by new and mainly new generating plants using RES that have a valid declaration for the generating plant and that fulfil the prescribed conditions observed by the Energy Agency in the process of deciding on eligibility for support.

(b) Involvement in the scheme

All investors that build new generating plants and can obtain certificates of origin for their electricity, are eligible for support.

(c) Implementation of scheme

Supervision of the entire scheme and its financial consequences for electricity prices to end consumers is provided by the Ministry of the Economy. Implementation of the scheme also involves the Slovenian Energy Agency, which issues declarations for generating plants, decides on the allocation of support and issues certificates of origin, and the Support Centre at the company Borzen (organiser of the electricity market), which concludes contracts providing support to those eligible.

(d) Availability of funding

Article 64.r of the Energy Act provides that each final consumer of electricity must pay a contribution towards providing support for the generation of electricity from RES. Details of the method of calculating and charging this contribution are laid down in the Decree on the method of determining and charging the contribution for providing support to the high-efficiency production of electricity through cogeneration and from renewable energy sources (Off. Gaz. RS, No. 2/09).

(e) Long-term security and reliability

Under the Energy Act, all those eligible for support are provided with support for 15 years. Support is set at the level that complies with the Community Guidelines on state aid for environmental protection, which ensures the depreciation of investments and a certain return on capital.

(f) Monitoring the scheme

Supervision of the scheme is provided in accordance with the Decree on support for electricity generated from renewable sources of energy, whereby every five years the Ministry of the Economy checks the conditions in the markets for technology for generating electricity from RES, and where necessary, sets a new fixed part of reference costs. The decree sets the fixed part of reference costs for 2009, and they will be reassessed in 2014. For photovoltaic installations, where prices are rapidly changing, the decree already provides that in the first five-year period the admitted costs will be reduced each year by 7%. The variable portion of the reference costs is determined each year individually, by reviewing the price trends of reference fuels, providing the basis for determining the variable costs, and through an estimate of the electricity prices trend, providing a basis for determining operating support, which is performed by the Energy Agency pursuant to the Decree on the rules for preparing a forecast of the position of generating plants using renewable energy sources and through high-efficiency cogeneration in the electricity market (Off. Gaz. RS, No. 83/09).

(g) Support and technologies

Support is technology-specific, such that the same conditions are ensured for all investors, irrespective of what technology they use.

(h) Energy production

From year to year we anticipate increased interest in investments in generating plants using renewable energy sources.

(i) Energy efficiency criteria

Support depends on fulfilling the criteria of energy efficiency. For wood biomass used to generate electricity but not in high-efficiency cogeneration of heat and power, the condition for obtaining support is to attain, in the reporting period or in one year, at least 70% overall efficiency in energy conversion of feed wood biomass into electricity and/or mechanical energy and useful heat. For biogas a bonus is set for generating plants that also succeed in usefully exploiting the heat from the plant. These measures are set out in Article 12 of the Decree on support for electricity generated from renewable sources of energy, and in point 6, Annex II of that decree.

(j) Current status of the scheme

The overhauled scheme has been operating since 1 November 2009, when the support scheme for promoting investments in plants generating electricity from renewable sources, under the competence of the Ministry of the Economy, was approved by the European Commission following prior application. Support is provided pursuant to Article 64.n of the Energy Act (Off. Gaz. RS, No. 27/07 - official consolidated text, and 70/08).

(k) Future status of the scheme

The new scheme is being implemented and has no time limit. The key instrument in promoting electricity generation from RES will be the further overhauled scheme of operating aid in the form of guaranteed purchase prices for electricity and financial support for current operations.

(l) Duration of scheme

The new scheme is being implemented and has no time limit. According to the valid Community Guidelines on state aid for environmental protection, after 10 years it will be necessary to submit it once again to the Commission, in order to check whether it complies with the rules of the internal market.

(m) Eligible sizes of system

Pursuant to the Community Guidelines on state aid for environmental protection, the upper limit for support under this scheme is 125 MW_e rated output of a generating plant using RES.

(n) Cumulation of support

The support scheme does not bar the obtaining of several kinds of support for the same project. Inherent in the scheme is the principle that all forms of support cumulate and that in determining support from the scheme, this must be taken into account and support appropriately lowered.

(o) Regional/local schemes

There are no regional or local support schemes for electricity generated from RES.

Features of financial support for the scheme

(a) Type of financial support

The support scheme approves subsidised purchasing of electricity generated from RES at preset guaranteed prices or operating support, which covers the difference between the production price of electricity from RES and its market price.

(b) Those eligible for financial support

Any domestic or foreign legal person that constructs a generating plant using RES and supplying electricity to the grid or using it themselves, irrespective of the technology and source of renewable energy, is eligible for support under this scheme for 15 years.

(c) Allocation of financial support

No calls are made in respect of providing support, but the receipt and processing of applications is continuous.

Tradable certificates

(a) Obliged share of electricity generated from renewable energy sources

In the legislation there is no set obligation regarding the specific share of electricity from RES in total supply that the producer, trader or end consumer of electricity should attain.

(b) Those bound by an obliged share of electricity from RES

No one is bound by an obliged share of electricity from RES.

(c) Technology-specific bands

There are no obligations regarding a specific share of electricity generated from RES by technology-specific bands.

(d) Technologies covered by the scheme

There is no scheme prescribing an obliged share of electricity generated from RES in total supply.

(e) International trade in certificates

Producers of electricity from RES may obtain certificates of origin or a RECS certificate. Both are issued by the Slovenian Energy Agency, which on the other hand may not issue both certificates at the same time for the same electricity. Selling is not prohibited, but Slovenia has not concluded any agreement with any other Member State whereby, in the event of such selling it could appropriately reduce the attained share of electricity from RES in Slovenian energy records.

(f) Floor bottom price

There is no floor bottom price for tradable certificates.

(g) Penalty for non-fulfilment of the obliged share of electricity from RES

There is no penalty for non-fulfilment of the obliged share of renewable sources.

(h) Average price of tradable certificates

The average price of tradable certificates does not change or get published, since there is no need for this.

(i) Trading scheme for certificates

The trading scheme is voluntary. There is no trading between the Slovenian participants of the electricity market.

(j) Duration of participation in scheme

There is no such scheme in Slovenia.

Feed-in fixed tariffs

(a) Conditions for obtaining fixed tariff

The condition for obtaining a fixed tariff is the electricity output of the plant using RES, which must be lower than 5 MW_e.

(b) Quotas for electricity generated at the fixed tariff

There is no cap on the total quantity of electricity generated annually, or the installed capacity eligible for the fixed tariff. There is, however, the obligation of plant operators using RES to estimate the annual production of electricity that the Support Centre will buy at the fixed tariff in their applications for support. If any producer exceeds this amount, upon ascertaining this the Support Centre would pay for the excess energy at market price.

(c) Technology specificity and tariff levels

The fixed tariffs are technology-specific. The tariff levels are set out in Annex II to the Decree on support for electricity generated from renewable sources of energy, and are given in Annex I to the Action Plan.

(d) Other criteria

There are no other, additional criteria that would serve to differentiate the tariffs.

(e) Guaranteed duration of fixed tariff

The fixed part of the tariff that is tied to the actual investment, is guaranteed for 15 years, while the variable portion changes each year depending on changes to operating costs.

(f) Fixed tariff adjustment

For recipients of support, the granted fixed tariffs are no longer adjusted. For new recipients, however, a review is performed every five years, so the tariff may be adjusted every five years to the conditions in the technology market.

Feed-in premiums

(a) Conditions for obtaining a premium

Generating plants using RES with a rated power output of up to 5 MW_e may decide, instead of guaranteed purchase, to sell electricity independently in the market, and to receive support as operating support, where they must themselves arrange the registration of their operating forecast and settling the difference between forecast and actual production, including balance sheet affiliation. Generating plants using RES with a rated output of 5 MW_e and more may receive support only in the form of financial assistance for current operations (operating support or premium).

(b) Quotas for electricity generated at a premium

There is no cap on the total quantity of electricity generated annually, or the installed capacity eligible for the premium. There is, however, the obligation of operators to estimate the annual production of electricity for which they will claim a premium in their applications for support. If any producer exceeds this amount, the Support Centre would cease paying support.

(c) Relationship between premium and fixed tariff

Producers of electricity that are eligible for the fixed tariff or premium for feed-in electricity from RES decide for themselves what they want. They cannot have both at the same time.

(d) Technological specificities and premium levels

Operating support is technology-specific. This is set out in Annex III to the Decree on the generation of electricity from renewable sources and given in Annex I to the Action Plan.

(e) Floor and/or cap for the premium

No limit has been set on the amount of premium that can be paid.

(f) Guaranteed duration of premium

Receipt of the premium is guaranteed for 15 years, but only for as long as the own price for generating energy from RES, which is acknowledged as the reference price, is higher than the price of electricity in the market. The operating support or premium is therefore continually changing.

(g) Adjustment of premium

For recipients of support, the granted tariffs are no longer adjusted. For new recipients, however, a review is performed every five years, so the tariff may be adjusted every five years to the conditions in the technology market.

Tendering

In Slovenia the support scheme is provided without tenders.

4.4 Support schemes to promote the use of energy from renewable sources in heating and cooling

System

(a) Legal basis

The Resolution on the National Energy Programme (Off. Gaz. RS, No. 57/04), which sets the targets in the area of renewable energy sources, has for heating and cooling defined the required increase in the share of RES in supplying heat from 22% in 2002 to 25% by 2010. A new National Energy Programme is being drawn up, and will be adopted in 2010.

(b) Technology-specific targets

In this phase, when the new National Energy Programme is not yet adopted, technology-specific targets for increasing the share of RES in supplying heating and cooling have not yet been set.

(c) Annual targets

The scheme targets for the intervening years between adoption of the Resolution on the National Energy Programme and the target year 2010 are linear.

(d) Those required to achieve the targets

The entity bound to fulfil the scheme targets is the state.

(e) Consequence of non-fulfilment

No consequences have been envisaged in national regulations for the state not fulfilling the scheme targets.

(f) Mechanism for supervising fulfilment

The mechanism for supervising fulfilment of the scheme targets on the national level is the regular annual report on implementation of the National Energy Programme - Annual Energy Overview for individual years, prepared by the ministry responsible for energy.

(g) Mechanism for modifying targets

There is no mechanism for modifying the targets of the scheme.

Financial support

Financial support for RES used in heating and cooling is provided within the framework of the following schemes:

- promoting the use of solar collectors in households,
- promoting wood biomass boilers in households,
- cofinancing the construction of wood biomass district heating systems,
- cofinancing the installation of wood biomass boiler equipment,
- cofinancing the construction of geothermal energy district heating systems,
- Energy advice – EnSVet.

4.4.1 Promoting the use of solar collectors in households

(a) Name of scheme

Promotional scheme for the installation of solar systems

(b) Involvement in the scheme

Involvement in the scheme is voluntary.

(c) Implementation of scheme

The scheme is implemented by the Eco Fund, the Slovenian public environmental fund. The authority supervising the scheme is – from 2010 on – the Ministry of the Economy.

(d) Availability of funding

Funding has been provided from the Slovenian national budget. In future the financial source for implementing the scheme will be provided outside the budget, as a supplement on fuel prices for efficient energy use.

(e) Long-term security and reliability

In the past the stability, longevity and reliability of scheme funding was under threat, so through amendment of the Energy Act, scheme funding has been provided from the supplement on the price of electricity, heat and fuels, and has a direct basis in law.

The funds collected from the heat and fuel price supplement will be used for measures to increase energy efficiency in the area of heating for measures such as: comprehensive energy rehabilitation of residential buildings and replacement of heating oil and LPG stoves with appliances using RES (wood biomass boilers, solar collectors and heat pumps).

The envisaged level of funds from the contribution and supplement up to 2015 for individual years is shown in the table below.

Year	2010	2011	2012	2013	2014	2015
Funds collected [EUR M]	39.7	49.4	59.3	68.9	78.6	85.4

Upon adoption of the Operational Programme for Reducing Greenhouse Gas Emissions up to 2012, decisions were also adopted to ensure the funds for implementation. The Operational Programme provides that in the coming years the supplement pursuant to Article 66.b of the Energy Act will be one of the key sources of financing for the scheme. The level of funds

collected from the contribution and supplements is in accordance with the Government decisions adopted upon adoption of the Operational Programme.

(f) Monitoring the scheme

The scheme is regularly reviewed by the Ministry of the Economy, and upon conclusion analyses are performed and reports provided.

(g) Support and technologies

Support differs depending on the technology. The level of incentives amounts to 25% of acknowledged costs of investment but no more than EUR 150 per m2 of surface of systems with panel collectors and no more than EUR 200 per m2 surface of systems with vacuum collectors.

For solar panel collector systems that will be made in a group organised construction (circles for self-construction of solar systems), the incentive is fixed and amounts to EUR 75 per m^2 of installed collector surface.

(h) Energy production

The estimate is that from 1 m^2 of a solar panel collection system, 300 to 330 kWh/year can be obtained, or 500 to 700 kWh/year with vacuum collectors.

(i) Energy efficiency criteria

The scheme has no established energy efficiency criteria.

(j) Current status of the scheme

The scheme has been implemented continuously since 1988.

(k) Future status of the scheme

The scheme will be continued up until 2020.

(l) Duration of scheme

Implementation of the scheme on the annual level begins with the publishing of a tender and concludes after all the tendered funds have been used up.

(m) Eligible sizes of system

All sizes of solar systems are eligible for financial support.

(n) Cumulation of support

The same project can obtain several types of support. Implementation of a solar system can be combined with EEU measures (replacing windows, insulating exterior walls or ceilings) and installing wood biomass boilers.

(o) Regional/local schemes

There are no regional and local incentive schemes for installing solar systems.

Features of financial support for the scheme

(a) Type of financial support

Under this scheme, subsidies are allocated.

(b) Those eligible for financial support

The scheme is aimed at households.

(c) Allocation of financial support

Financial support is allocated within the framework of annual tenders. For the duration of the tender, receipt and confirmation of applications is continuous. When the funds run out, the tender is closed and a new tender is issued at the beginning of the next year.

4.4.2 Promoting wood biomass boilers in households

(a) Name of scheme

Promotional scheme for the installation of special wood biomass boilers (logs, pellets, chips)

(b) Involvement in the scheme

Involvement in the scheme is voluntary.

(c) Implementation of scheme

The scheme is implemented by the Eco Fund, the Slovenian public environmental fund. The authority supervising the scheme is – from 2010 on – the Ministry of the Economy.

(d) Availability of funding

Funding has been provided from the Slovenian national budget. In future the financial source for implementing the scheme is planned from outside the budget, as a supplement on fuel prices for efficient energy use.

(e) Long-term security and reliability

In the past the longevity and reliability were under threat, so the scheme is moving to a reliable, legal basis of funding.

(f) Monitoring the scheme

Implementation of the scheme on the annual level is monitored by the Ministry of the Economy.

(g) Support and technologies

The level of support amounts to 25% of the recognised costs of investment, including procurement and installation of the boiler, the fuel container, transport and safety system, appropriate feed equipment and heat storage, and conversion of the existing or manufacture of a new connection for air feed and removal of flue gases, but not more than EUR 2,000 for a chip or pellet boiler and not more than EUR 1,500 for a log boiler.

(h) Energy production

(i) Energy efficiency criteria

The efficiency of the heating appliance at rated heat output must be equal to or greater than 90%, and the value of dust particle emissions must be less than 50 milligrams per cubic metre. Log-fired heating appliances must have built-in heat storage of at least 50 litres per kilowatt of heat output from the appliance. The scheme has no established energy efficiency criteria.

(j) Current status of the scheme

The scheme is an existing measure. The scheme has been implemented continuously since 1988.

(k) Future status of the scheme

The scheme will be continued up until 2020.

(l) Duration of scheme

Implementation of the scheme on the annual level begins with the publishing of a tender and concludes after all the tendered funds have been used up.

(m) Eligible sizes of system

All sizes of boiler using woodchips, pellets or logs for single, double or multiple residence buildings are eligible for financial support.

(n) Cumulation of support

The same project can obtain several types of support. Installation of a wood biomass boiler can be combined with EEU measures (replacing windows, insulating exterior walls or ceilings) and installing a solar system.

(o) Regional/local schemes

Promotional schemes for the installation of wood biomass boilers exist in certain municipalities and are designed in the same way as the scheme on the national level.

Features of financial support for the scheme

(a) Type of financial support

Under this scheme, subsidies are allocated.

(b) Those eligible for financial support

The scheme is aimed at households.

(c) Allocation of financial support

Financial support is allocated within the framework of annual tenders. For the duration of the tender, receipt and confirmation of applications is continuous. When the funds run out, the tender is closed and a new tender is issued at the beginning of the next year.

4.4.3 Scheme for cofinancing the construction of district heating systems using wood biomass and geothermal energy

(a) Name of scheme

Public tender for cofinancing district heating using wood biomass for 2009, 2010 and 2011 under the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013, the development priority of Sustainable use of energy and the priority orientation of Innovative measures for local energy supply.

The scheme enables the allocation of non-returnable funds for cofinancing projects of district heating using wood biomass (hereinafter: DHWB). The financial incentives are intended for investments in new DHWB systems and micro DHWB systems. Incentives can also be claimed by investors that expand existing district heating systems or construct new boiler rooms with wood biomass boilers as the source for an existing district network.

A public tender for cofinancing district heating using geothermal energy is being drafted. The framework for implementation of the scheme is the same as cofinancing wood biomass district heating.

(b) Involvement in the scheme

The scheme is voluntary.

(c) Implementation of scheme

The scheme is provided by the Ministry of the Economy. The supervising authority is the Government Local Development Office.

(d) Availability of funding

The Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 has been signed.

(e) Long-term security and reliability

In the past the longevity and reliability were under threat, so the scheme is moving to a reliable, legal basis of funding.

(f) Monitoring the scheme

Reporting is carried out in accordance with EU requirements. The scheme will be optimised in 2010, when the tender will incorporate experiences from the progress of tenders to date.

(g) Support and technologies

Support is only allocated for commercially available technologies. Used appliances and prototype boiler appliances are not eligible as systems for generating heat in a district system.

(h) Energy production

The scheme should contribute to increasing the production of 96 GWh of energy from wood biomass in the period 2009-2013.

(i) Energy efficiency criteria

Support is intended only for boilers whose efficiency is greater than or equal to 86% and that achieve the limit of harmful substance emissions set in the tender. Energy efficiency is also achieved through the guideline whereby the heat burden on the network, that is the amount of heat sold per pipeline metre of the network, exceeds 1,200 kWh/m/year.

(j) Current status of the scheme

The measure exists. Cofinancing is provided in accordance with the State Aid Scheme "Promoting efficient energy use and use of renewable energy sources – regional aid" (No. X435/09).

(k) Future status of the scheme

The scheme will operate until 2020.

(l) Duration of scheme

The first tender in the scheme implementation was published on 15 May 2009. The scheme will be financed from the Cohesion Fund up to and including 2013.

(m) Eligible sizes of system

Boiler capacities for covering the need for heat in a DHWB system may be a maximum of 20 MW_t, taking into account wood biomass boilers as well as peak demand fossil fuel boilers.

(n) Cumulation of support

There are no restrictions regarding other support for those eligible for financial support.

(o) Regional/local schemes

There are no regional/local schemes.

Features of financial support for the scheme

(a) Type of financial support

Under this scheme, subsidies are approved.

(b) Those eligible for financial support

Those eligible for non-returnable funds under this tender are all companies organised as commercial companies registered pursuant to the Companies Act (Off. Gaz. RS, No. 42/06 as amended) or sole traders officially established in Slovenia. The exceptions to this are microcompanies established in small settlements seeking to register in small settlements the implementation of an operation whose investment value is less than EUR 400,000 (excluding VAT) or EUR 480,000 including VAT. (Small settlements are all settlements, except those defined in the publication Mestna naselja v Republiki Sloveniji [Urban Settlements in the Republic of Slovenia], 2003, Slovenian Statistical Office. Microcompanies are those with less than 10 workers and with an annual turnover of less than EUR 2 million or a balance sheet total of less than EUR 2 million). Exceptions have been introduced in order to differentiate from cofinancing through the Rural Development Programme implemented by the MAFF.

(c) Allocation of financial support

The tender is open, and the opening of applications is performed in two-month intervals. The tender conditions require: the value of the operation must amount to at least EUR 400,000 EUR (excluding VAT). The operation must have a previously determined duration and a set start and end. Where this involves a micro DHWB system or expansion of an existing DHWB network, with or without the construction of additional wood biomass boilers, the investment value of the operation may be less than EUR 400,000, but must be greater than EUR 150,000 (excluding VAT).

4.4.4 Scheme for cofinancing the installation of wood biomass boiler equipment

(a) Name of scheme

Public tender for cofinancing individual heating systems using wood biomass for 2009 and 2010, under the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013, the development priority of Sustainable use of energy and the priority orientation of Innovative measures for local energy supply.

The scheme enables the allocation of non-returnable funds under the principle of “de minimis” for cofinancing projects to install wood biomass boiler equipment (hereinafter: WBBE). The financial incentives are intended for WBBE investments. Incentives may also be claimed by investors expanding the capacities in existing boiler rooms using wood biomass or replacing existing boilers that use fossil energy sources.

(b) Involvement in the scheme

The scheme is voluntary.

(c) Implementation of scheme

The scheme is provided by the Ministry of the Economy. The supervising authority is the Local Development Office.

(d) Availability of funding

The Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 has been signed.

(e) Long-term security and reliability

The tender is open until the funds are used up or at the latest until 31 May 2010. The decree on ensuring energy savings enables the uninterrupted implementation of this scheme in the next three years.

(f) Monitoring the scheme

Reporting is carried out in accordance with EU requirements. The scheme will be optimised at the beginning of 2010, when the tender will incorporate experiences from the progress of tenders to date.

(g) Support and technologies

Support is only allocated for commercially available technologies. Used appliances and prototype boiler equipment are not eligible.

(h) Energy production

The scheme will contribute to increasing production by 108 GWh of energy from wood biomass in the period 2009-2013.

(i) Energy efficiency criteria

Support is intended only for boilers whose efficiency is greater than or equal to 86% and that achieve the limit of harmful substance emissions set in the tender. Energy efficiency is also achieved through the provision that in the event of contract financing, where the client is the public sector, the age of the relevant public buildings may not be greater than 20 years.

(j) Current status of the scheme

The measure exists. Cofinancing is provided in accordance with the “de minimis” Aid Scheme “Promoting efficient energy use and use of renewable energy sources – advisory services” (No. MO001-5186773-2007).

(k) Future status of the scheme

The scheme is already being implemented. The decree on ensuring energy savings enables the uninterrupted implementation of this scheme in the next three years.

(l) Duration of scheme

The first tender in the scheme implementation was published on 15 May 2009. The scheme will run up to and including 2013.

(m) Eligible sizes of system

Boiler equipment using wood biomass for which support is provided must have a capacity of at least 150 kW and a maximum of 5,000 kW.

(n) Cumulation of support

There are no restrictions regarding other support for those eligible for financial support.

(o) Regional/local schemes

There are no regional/local schemes.

Features of financial support for the scheme

(a) Type of financial support

Under this scheme, subsidies are approved.

(b) Those eligible for financial support

Those eligible for non-returnable funds under this tender are legal persons governed by private law established pursuant to the Companies Act (Off. Gaz. RS, No. 42/06 as amended), the Societies Act (Off. Gaz. RS, No. 61/06), the Institutions Act (Off. Gaz. RS, No. 70/05; 91/05 revised), the Institutes Act and the Religious Freedom Act (Off. Gaz. RS, No. 14/07), and also sole traders officially established in Slovenia.

For operations not located in one of the urban settlements in Slovenia a restriction applies whereby the applicant cannot be a microcompany eligible under the MAFF public tender for measure 312 – support for establishing and developing microcompanies. (Small settlements are all settlements, except those defined in the publication Mestna naselja v Republiki Sloveniji [Urban Settlements in the Republic of Slovenia], 2003, Slovenian Statistical Office. Microcompanies are those with less than 10 workers and with an annual turnover of less than EUR 2 million or a balance sheet total of less than EUR 2 million).

Nor may the applicant be a company that manufactures appliances or components of appliances that are part of the operation.

Since the public tender is held according to the “de minimis” principle, in accordance with Commission Regulation (EC) No. 1998/2006 of 15 December 2006 on the application of Articles 87 and 88 of the Treaty to de minimis aid (OJ EU L 379/5), the following may not participate:

- companies operating in the area of fisheries and the fish farming sector,
- companies operating in the area of primary production of agricultural products from the list in Annex I to the Treaty Establishing the EU (OJ C 340, 10.11.1997),
- companies operating in the area of coal mining,
- companies that in the past three years, under the “de minimis” rule, and including the anticipated aid in this tender, have obtained more than EUR 200,000 (companies

operating in the area of goods transport by road and passenger transport, EUR 100,000).

(c) Allocation of financial support

The tender is open, and the opening of applications is performed in two-month intervals.

The tender conditions require that the value of the operation must amount to at least EUR 70,000 (excluding VAT). The operation must have a previously determined duration and a set start and end. Boilers must fulfil the emission requirements set out in the tender documentation.

Tender

(a) Scope and frequency

The tender is open, and the opening of applications is performed in two-month intervals.

(b) Technologies

Support is only allocated for commercially available technologies, where the wood biomass boiler must attain a minimum efficiency at rated heat output of 86%.

(c) Involvement in network development

The tender is intended for cofinancing individual systems of wood biomass heating. In exceptions, the operation may include the construction of a primary part of a micro district distribution system with a total maximum line length of 300 m, to a maximum of two users of heat in structures outside the structure where the wood biomass boiler is being installed.

4.4.5 Scheme for cofinancing awareness-raising, promotional and educational projects

(a) Name of scheme

Public tender for cofinancing schemes of awareness-raising, promotional and educational projects on renewable energy sources for 2010, 2011 and 2012 under the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013, the development priority of Sustainable use of energy and the priority orientation of Innovative measures for local energy supply.

(b) Involvement in the scheme

The scheme is voluntary.

(c) Implementation of scheme

The scheme will be provided by the Ministry of the Economy.

(d) Availability of funding

The Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013, which ensures adequate funding in this period, has been signed.

(e) Long-term security and reliability

A systemic financing solution is needed for the long-term implementation of the scheme.

(f) Monitoring the scheme

Reporting will be carried out in accordance with EU requirements.

(g) Support and technologies

The scheme is intended for the promotion of all forms and technologies of RES.

(h) Energy production

The scheme should contribute motivationally to increasing the recognition of the prospects for using RES in local environments in the period 2009-2013, which could consequently increase the wider interest in using new RES technologies.

(i) Efficiency criteria

Support will be aimed only at programmes that will ensure the promotion of RES in programmes that will raise awareness, promote, educate, incorporate criteria of lifelong learning and intergenerational cooperation and will be implemented as a logical sequence of units (events, informational material, publications, website etc.).

(j) Current status of the scheme

The scheme does not yet exist. Cofinancing will be provided in accordance with the State Aid Scheme “Promoting efficient energy use and use of renewable energy sources – regional aid” (No. X435/09).

(k) Future status of the scheme

The scheme will start in 2010 and will be continued up to 2020.

(l) Duration of scheme

The first tender will be published in 2010 and will be open up to and including 2012.

Features of financial support for the scheme

(a) Type of financial support

Under this scheme, subsidies are approved.

(b) Those eligible for financial support

Those eligible for non-returnable funds under this tender will be all companies organised as commercial companies registered pursuant to the Companies Act (Off. Gaz. RS, No. 42/06

as amended), the Societies Act, the Institutions Act and Institutes Act and sole traders officially established in Slovenia.

(c) Allocation of financial support

The tender has not yet been drawn up.

4.4.6 Scheme of Energy Advice (EnSVet)

(a) Name of scheme Energetsko svetovanje — EnSvet – Energy Advice

EnSvet is a project aimed at advising and raising the level of information and awareness among citizens regarding rational energy management and exploitation of RES. The EnSvet project has been operating since 1993 by authorised advisers trained to provide advice in an organised network of advice offices throughout Slovenia (EnSvet network). In cooperation with municipalities that make available premises and essential equipment for advice offices, for which the responsible ministry has special contracts concluded with individual municipalities, there are 36 advice offices operating today in Slovenia.

(b) Involvement in the scheme

The scheme is intended to promote EEU and RES among citizens and households that opt voluntarily for advice. To date, the advisory service has been financed from the Slovenian budget, and has been provided continuously and free for those receiving advice.

(c) Implementation of scheme

The scheme is the responsibility of the ministry responsible for activities related to efficient energy use and renewable energy sources. Implementation has generally been within the scope of one-year projects contracted out to an external provider that is able to provide expert guidance and operational implementation of work in the EnSvet network. The ministry actively steers and supervises the implementation of the scheme.

(d) Availability of funding

In the last few years, within the scope offered by the funding, the level of activity has been constant at between 5,000 and 6,000 pieces of advice given each year.

Energy advice is also one of the 25 instruments of the National Action Plan 2008-2016 (AP EEU), which was formulated pursuant to Article 14 of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services. In line with the AP EEU, activities need to be stepped up, with plans for an increase in the volume of energy advice to at least 100,000 pieces of advice in nine years, meaning that on average, the scope of activities in the EnSvet network will practically double.

The energy advice network for citizens is expressly mentioned in the Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (OP DETI) among the envisaged activities under point 3.3.4.4. Demonstration projects, information and advice.

Achieving the OP DETI objectives also signifies an important share of achieving the goals of the Operational Programme for Reducing Greenhouse Gas Emissions up to 2012 (OP GGE-1), as part of which through the instrument of energy advice it contributes to:

- CO_2 emission reduction,
- final energy saving,
- increasing the electricity generated from renewable sources.

(e) Long-term security and reliability

The training schemes for implementing measures to reduce greenhouse gas emissions under OP GGE-1 (point 4.22.2) should include all institutions that are already involved in education and advice (EnSvet energy advice offices, the informal network of advisers for obtaining, processing and using wood biomass, known as LesEnSvet etc.). The assessment of the current state of affairs also explicitly notes that it makes sense to continue to include existing advice networks in the implementation of the measure (EnSvet, LesEnSvet).

(f) Monitoring the scheme

The ministry guides and supervises the implementation of the project on the basis of periodic monthly reports during project implementation, and where necessary other special reports, steering meetings with project providers and a final report on implementation for a certain period (usually one year). Through implementation of the EnSvet scheme, which is based on projects for an indicative period of one year, account is taken of the needs of local communities, with annual programmes of work at the advice offices, as planned by the individual local communities, being coordinated with the ministry supervising project implementation.

The ultimate effect of the scheme is enhanced-awareness behaviour and decisions by citizens to invest in EEU and to use RES. In order to evaluate the overall effects, studies are conducted periodically to analyse the value of work performed by EnSvet. For example, the results for 2008 were evaluated as follows:

Quantitative scope of activities

In 2008 energy advisers provided 6,065 pieces of advice through written reports and had more than 10,000 brief information and advisory contacts with citizens. Furthermore they produced 310 expert articles and participated in more than 260 local radio and TV broadcasts, plus they completed more than 150 lectures, mentor hours, field visits and other agreed activities.

Use of public funds in 2008 (from the Slovenian budget, item: "Promoting EEU and RES", NRP: 2525-02-0008), the following was spent: EUR 605,500

Effects achieved

- fuel savings (per year): 30,300 MWh/year, which means practically 5,000 kWh per advice each year
- CO_2 emission reduction: 7,900 t CO_2/year.

(g) Support and technologies

The price of advice in the EnSvet network is standardised or rather a lump sum irrespective of the type of specific problem presented by the receiver of advice and the technology of the recommended solution.

(h) Energy production

The substance of the advice relates to efficient energy use in households and buildings and to the use of RES, including investment measures for heat insulation of buildings, installation of heat pumps, use of solar energy for heating and power generation, use of wood biomass, the method of ventilation and similar. In principle, in the content of advice, the measure to reduce individual need for energy are equal to the measures for exploiting RES for own production of heat and power.

(i) Energy efficiency criteria

Citizens can obtain specific energy advice without any special conditions.

(j) Current status of the scheme

The legal basis for implementing the EnSvet programme is Article 65 of the Energy Act (Off. Gaz. RS, No. 27/07 - official consolidated text, and 70/08).

(k) Future status of the scheme

The EnSvet scheme has been provided practically without interruption for 15 years, and in accordance with the AP EEU, the intention is to continue it at least up to and including 2016.

(l) Duration of scheme

The plan to increase activities involves the target of at least 88,000 pieces of advice in the period 2010-2016:

(m) Eligible sizes of system

The EnSvet network is expected to expand only in accordance with the justified needs of local communities, as a priority by three to four additional offices up to a density for the indicative territorial coverage of the whole of Slovenia with advice offices in a radius of at most 20 km.

(n) Cumulation of support

Free energy advice and other possible incentives are not mutually exclusive, and rather the practice is to use two or more instruments at the same time. Thus advisers, in addition to providing specific advice and local awareness-raising promotional activities, also participate in relevant projects and activities, for instance in tenders to promote investment for EEU and exploitation of RES in households and residential buildings.

(o) Regional/local schemes

The EnSvet programme is a national programme that is provided uniformly for the whole of Slovenia. The annual programme is coordinated with the needs of local communities. Without direct national support and supervision, it would not be good to transfer the EnSvet programme to regional or local energy agencies (LEA), since excessively great regional differences in implementation would thereby be anticipated.

Features of financial support for the scheme

(a) Type of financial support

(b) Those eligible for financial support

The EnSvet scheme ensures free and independent advice for citizens about EEU and the use of RES, with the aim of recommending appropriate behaviour or (pre)preparation of investment. For all activities, in line with the established instructions on formulating reports, advisers must make a written report, to which any evidence, where necessary, must be added.

(c) Allocation of financial support

Where possible the ministry provides financing for the uninterrupted provision of advice to citizens. Citizens obtain free advice, after contacting the office by telephone, in an agreed deadline at a selected EnSvet office, in a direct conversation with an adviser who subsequently sends the citizen a written report on the advice.

4.5 Support schemes to promote the use of energy from renewable sources in transport

System

(a) Legal basis

Ensuring the use of biofuels and other renewable fuels for the propulsion of motor vehicles up to the end of 2015 is laid down in the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07), which represents the transposition of Directive 2003/30/EC of the European Commission into Slovenia's legal order.

(b) Technology-specific targets

No technology-specific targets have been set to ensure the use of biofuels and other renewable fuels to drive motor vehicles.

(c) Annual targets

The annual targets in the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07) for the value of the share of biofuels in the market for the propulsion of motor vehicles are as follows:

- 2007 at least 2%,
- 2008 at least 3%,
- 2009 at least 4%,

- 2010 at least 5%,
- 2011 at least 5.5%,
- 2012 at least 6%,
- 2013 at least 6.5%,
- 2014 at least 7%,
- 2015 at least 7.5%

(d) Those required to achieve the targets

The entity required to meet the targets set in the Decree on the promotion of the use of biofuels and other renewable fuels for the propulsion of motor vehicles (Off. Gaz. RS, No. 103/07) is the state. The exception to this is the targets for values of the share of biofuels in the market, where those required to achieve the targets are the suppliers of liquid fuels.

(e) Consequence of non-fulfilment

No consequences have been envisaged in national regulations for the state not fulfilling the prescribed targets. However, in the event of suppliers of liquid fuels not achieving the targets or other offences relating to the decree in question, as entities bound to achieve the targets of a share of biofuels they are subject to fines.

(f) Mechanism for supervising fulfilment

Supervision of fulfilment of targets and the requirements of the decree is performed by environmental inspectors.

(g) Mechanism for modifying targets

No mechanism exists that would enable modification of the decree targets.

4.5.1 Excise Act – exemption for biofuels

(a) Name of scheme Excise Act:

- provides that biofuels used as motor fuels are exempted from the payment of excise duties, if they are used in their pure form, and

- if they are mixed with fossil fuels, an exemption may be claimed up to a maximum of 5%, or more if it is standardised fuel containing biofuel.

(b) Involvement in the scheme

The exemption for biofuels is obligatory

(c) Implementation of scheme

Implementation of the scheme is within the competence of the Ministry of Finance and the Slovenian Customs Administration.

(d) Availability of funding

The scheme sets out relief for biofuels such that no funding is needed to implement the scheme.

(e) Long-term security and reliability

The legal basis for the scheme ensures long-term stability.

For commercial activities, the adoption of the Rules on reimbursement of excise duty for commercial purposes (Off. Gaz. RS, No. 52/09) diminished the advantage of exemptions on the payment of excise for biofuels/biodiesel in the entire commercial sector, since they have become eligible for reimbursement of excise for

gasoil as a motor fuel.

Equally, no exemption for biofuels is not expressly set out in agriculture and forestry, where users are entitled to 50% reimbursement of excise duty for mineral motor fuels.

(f) Monitoring the scheme

All those liable for excise duty must register at the customs authority responsible for implementing the scheme, which also supervises it. For each exemption of excise duty products, those liable for excise must issue a bill in two copies and keep one.

(g) Support and technologies

The level of relief differs relative to the quantity of biofuel mixed with fossil fuel. Exemption is full if it is pure biofuel and, if they are mixed with fossil fuels it is a maximum of 5%, or more if it is standardised fuel containing biofuel.

(h) Energy production

No assessment has been made of the impact of the scheme on energy production.

(i) Energy efficiency criteria

Exemptions for biofuels do not depend on the fulfilment of energy efficiency criteria.

(j) Current status of the scheme

This is an existing scheme regulated by the Excise Act, Off. Gaz. RS, No. 2/07, 25/09 and 41/09.

(k) Future status of the scheme

The scheme is being provided continuously in its existing form.

(l) Duration of scheme

The scheme has been provided since 2007 and has no time limit.

(m) Eligible sizes of system

The scheme applies to all irrespective of the size of system.

(n) Cumulation of support

The scheme may be combined with all possible programmes and measures to promote the use of biofuels.

(o) Regional/local schemes

There are no regional/local schemes.

Features of financial support for the scheme

(a) Type of financial support

This scheme approves exemptions on the payment of excise duty in full, or in an appropriate portion where it involves a mixture of biofuels and mineral fuels.

(b) Those eligible for financial support

The scheme is aimed at all entities registered as liable for excise duty.

(c) Allocation of financial support

For each exemption of excise duty products, those liable for excise must issue a bill in two copies and keep one. The liable entity submits a request for reimbursement of paid excise duty once a year to the competent customs authority.

4.5.2 Motor Vehicles Tax Act – depending on emissions of CO_2

(a) Name of scheme

Motor Vehicles Tax Act:

- provides that the level of tax depends on CO_2 emissions and the type of fuel used for propulsion, and amounts (in %) to:

Emissions of CO_2 [g/km]	petrol, LNG	diesel
from 0 to 110 inclusive	0.5	1
from 110 to 120 inclusive	1	2
from 120 to 130 inclusive	1.5	3
from 130 to 150 inclusive	3	6
from 150 to 170 inclusive	6	11
from 170 to 190 inclusive	9	15
from 190 to 210 inclusive	13	18
from 210 to 230 inclusive	18	22
from 230 to 250 inclusive	23	26
over 250	28	31

- for motor vehicles with at least eight seats, the relevant level of tax is reduced by 30%.

(b) Involvement in the scheme

The scheme is obligatory for all motor vehicles.

(c) Implementation of scheme

Implementation of the scheme is within the competence of the Ministry of Finance and the Slovenian Customs Administration.

(d) Availability of funding

The scheme defines the redistribution of tax revenue from motor vehicles with lower emissions to those with higher emissions, such that special funding for the scheme is not required.

(e) Long-term security and reliability

The legal basis for the scheme ensures long-term stability.

(f) Monitoring the scheme

Implementation of the scheme is monitored by the competent tax authorities through supervision of tax collection.

(g) Support and technologies

Tax classes depend on the type of fuel and size of CO_2 emissions. Supplements to the basic tax are set relative to emissions according to the Euro standard as follows:

- for emissions lower than Euro 3, tax increases by 10 percentage points,
- at Euro 3, tax increases by 5 percentage points,
- at Euro 4, tax increases by 2 percentage points,
- at Euro 5 there is no supplement,
- for Euro 6 diesel vehicles, the tax classes for petrol apply.

Special levels of tax are also set for two-stroke motor cycles, motor bicycles tricycles and four-wheelers.

(h) Energy production

No assessment has been made of the impact of the scheme on energy production.

(i) Energy efficiency criteria

The tax classes depend on the volume of CO_2 emissions, whereby energy efficient vehicles are promoted.

(j) Current status of the scheme

This is an existing scheme regulated by the Motor Vehicles Tax Act, Off. Gaz. RS, No. 72/06 and 9/10.

(k) Future status of the scheme

The scheme is being provided continuously in its existing form.

(l) Duration of scheme

The scheme has been provided since 2010 and has no time limit.

(m) Eligible sizes of system

The scheme applies to all motor vehicles.

(n) Cumulation of support

The scheme may be combined with all possible programmes and measures for motor vehicles and transport.

(o) Regional/local schemes

There are no regional/local schemes.

Features of financial support for the scheme

(a) Type of financial support

The scheme sets out lower tax classes for lower emissions of CO_2, and higher classes for higher emissions.

(b) Those eligible for financial support

The scheme is aimed at all sellers and buyers of motor vehicles.

(c) Allocation of financial support

The scheme for charging tax on motor vehicles is being implemented continuously in the sale and purchasing of motor vehicles.

4.5.3 Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013

The Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 (OP DETI) represents an implementing document of Slovenia for the period 2007-2013, which sets out the directly deriving legal obligations and rights from implementation of EU Cohesion Policy in Slovenia. The overall aim of OP DETI is to ensure the conditions for growth by ensuring sustainable mobility, improving the quality of the environment and construction of adequate infrastructure. Alongside the measures set out in OP DETI, measures are planned for the transport sector in the Operational Programme for Reducing Greenhouse Gas Emissions up to 2012 (aimed at fulfilling the obligations of the

Kyoto Protocol) and in the Action Plan for Energy Efficiency 2008-2016 (aimed at fulfilling the obligations under Directive 2006/32/EC).

The transport targets in OP DETI are based on strategic trajectories in the area of transport and transport infrastructure, which are defined in Slovenia's Transport Policy.

OP DETI defines measures and the associated funding, and these measures include sustainable transport policy measures. The AP EEU draws from OP DETI measures for the area of EEU in transport, and fleshes them out with measures to improve vehicle efficiency. OP DETI defines these measures in more detail on the implementing level. The measures in OP DETI, AP EEU and OP GGE for the transport sector that are relevant for promoting the use and increased share of RES in transport are as follows:

- promotion and competitiveness of public passenger transport (OP DETI):

  a. stimulus subsidies for passenger transport (AP EEU); drafting amendments to the act governing concessions for commercial public services of providing scheduled passenger transport in internal transportation, especially in terms of promoting an increase in passenger numbers (OP GGE-1); analysing the prospects for implementing cross-financing of passenger transport (OP GGE-1);

  b. promotion, awareness-raising and information on the advantages of public transport (AP EEU),

  c. increasing accessibility (frequency, punctuality, speed and quality of public transport services, single combined ticket, coordinating timetables, favourable pricing), setting up intermodal terminals and information centres, introducing band road tolls and prepayment vignettes (AP EEU); continuing the project of Integrated Public Passenger Transport (OP GGE-1) and

  d. fiscal instruments to restrict access by private vehicles to city centres, selective parking fees (AP EEU); in cooperation with urban municipalities, by the end of March 2010 drawing up proposed sections of national roads with separated carriageways and two or more lanes, where it would make sense for one lane to be reserved exclusively for public transport (OP GGE-1);

  e. in cooperation with the Ministry of the Environment and Spatial Planning and municipalities, by March 2010 drawing up an action plan for developing public passenger transport (OP GGE-1).

- modernisation of the rail network in line with the timetable (OP DETI, OP GGE-1);

- promoting sustainable goods transport;

  a. financial incentives, setting up intermodality and increasing the transport of freight by rail, fiscal instruments for road transport, development of logistics centres, transhipment terminals and intermodal hubs, use of piggy-back trains, inclusion of external costs, road tolls for freight (AP EEU, OP DETI);

  b. formulation of a comprehensive strategy of management and movement of transit freight (OP GGE-1);

- ensuring the more rapid construction and modernisation of railway infrastructure (OP DETI, OP GGE-1);

- increased energy efficiency of road vehicles;

  a. regulations on energy labelling and efficiency of private vehicles (AP EEU); consistent labelling of (new) vehicles regarding CO_2 emissions (i.e. stricter supervision of implementation of the Rules) – Ministry of the Environment and Spatial Planning.

  b. proportionate taxation of road vehicles relative to their environmental standard and energy efficiency (AP EEU), proposals for road tolls for motor vehicles taking into account external costs and greenhouse gas emissions; drafting amendments to regulations on annual road taxes for vehicles (OP GGE-1); implementing progressive taxation of (new) private vehicles that will take account of overall environmental criteria (CO_2 emissions per km travelled and EURO emission levels) and introduction of environmental criteria in allocating the level of annual road taxes for vehicles – Ministry of Finance and Ministry of Transport;

  c. preparation of a handbook and information for consumers on economical use of fuels (Ministry of the Environment and Spatial Planning to prepare by March 2010 a handbook on fuel economy pursuant to Article 5 of the Rules on information for consumers on the fuel economy and CO_2 emissions of new private vehicles (Off. Gaz. RS, No. 86/2003, 133/2003, 41/2004-ZVO-1, 43/2004) and ensuring effective implementation of the rules informing consumers about fuel economy and CO_2 emissions of new private vehicles) (OP GGE);

  d. regulations for implementing green public procurement for the purchase of energy efficient and environment-friendly vehicles (AP EEU), in the decree on green public procurement laying down environmental criteria (CO_2 emissions per km travelled, technical standard – EURO emission levels) in purchasing new vehicles in the public sector (green public procurement), in relation to this the need to draft an appropriate regulation – Ministry of Public Administration.

  e. promotional and educational activities (economical driving school etc.) (AP EEU);

- construction of cycle paths and support structures, removal of obstacles and promotion of cycling; (financial incentives for constructing cycle paths and support structures, removal of obstacles for more extensive cycling) (OP DETI; AP EEU; OP GGE-1),

- personnel and organisational enhancement of the Ministry of Transport for implementing measures to reduce GHG emissions and sustainable transport policy;

- drawing up a proposal for environmental taxes on motor fuels in the amount of EUR 0.02/litre (OP GGE-1);

- drawing up a programme of information, awareness-raising and training for measures in the transport sector (OP GGE-1).

The OP GGE also defines measures to promote biofuels, and these are dealt with in other chapters of this document.

(a) Involvement in the scheme

Involvement in the scheme is not obligatory on the level of the operational programme and no sanctions are defined for non-implementation.

(b) Implementation of scheme

Implementation of the schemes is the responsibility of the Ministry of Transport in cooperation with other ministries for individual measures in the transport sector.

(c) Availability of funding

The Operational Programme for Developing Environmental and Transport Infrastructure 2007-2013 defines the financial plan for consumption rights by year and the sources of funding by development priority. In the OP GGE and AP EEU, funding is planned, but apart from those taken from the OP DETI, they are not explicitly ensured for all planned measures in transport.

(d) Long-term security and reliability

The OP DETI targets are formally established for the short-term period 2007-2013 with the possibility of revision of measures to achieve the targets. The AP EEU targets are defined for the period 2008-2016, and the OP GGE for 2009-2012.

(e) Monitoring the scheme

Steering and supervising implementation of the OP DETI is the responsibility of the joint supervisory board for the Operational Programme for Developing Environmental and Transport Infrastructure and the Operational Programme for Strengthening Regional Development Potentials, set up by the Slovenian Government. The supervisory board monitors the effectiveness and success of the operational programme and adopts guidelines for its implementation.

The Government Climate Change Office is in charge of monitoring implementation of the OP GGE, and by 1 April each year it produces and submits to the Government for adoption a Report on monitoring implementation of the Operational Programme for Reducing Greenhouse Gas Emissions.

It reports on implementation of the AP EEU to the Government, which in turn reports to the Commission.

(f) Support and technologies

The financial plan for the OP DETI sets out sources of funding by development priority, and specifically for the transport sector as follows:

- Railway infrastructure,
- Road and maritime infrastructure,
- Transport infrastructure.

Activities are carried out through regular programmes of ministries and legislation.

(g) Energy production

With the available funds for the environment regarding measures affecting sustainable transport policy, by the end of the programme period the following quantified targets will be met:

	Indicators	Target effects of planned measures
1	Reduction in greenhouse gas emissions	reduction of 194 kt CO_2 equiv.
2	Final energy saving	109 ktoe

The target of the National Energy Efficiency Action Plan 2008-2016, in accordance with Article 4 of Directive 2006/32/EC, is to achieve a 9-percent saving of final energy through the planned instruments, which cover measures for EEU and energy services.

(h) Energy efficiency criteria

(i) Current status of the scheme

The adopted operational programme, which is being implemented via the tasks of individual ministries and adopted laws relating to transport and motor vehicles.

(j) Future status of the scheme

The operational programme is ready for implementation in the period 2007-2013.

(k) Duration of scheme

The operational programme was implemented in 2007 and will conclude in 2013.

(l) Eligible sizes of system

The operational programme does not limit the size of eligible systems.

(m) Cumulation of support

The operational programme can combine with all schemes in the area of EEU and promoting the use of RES.

(n) Regional/local schemes

There are no regional/local schemes.

Features of financial support for the scheme

The operational programme is a horizontal measure implemented through the regular tasks of ministries.

(a) Type of financial support

The financial subsidies envisaged in the OP DETI are aimed at infrastructure building.

(b) Those eligible for financial support

The state – public railway infrastructure – and municipalities – public transport and cycling infrastructure.

(c) Allocation of financial support

The operational programme is a horizontal measure implemented through the regular tasks of ministries.

4.6 Specific measures for the promotion of the use of energy from biomass

Alongside water energy, biomass represents the most important renewable energy source in Slovenia. Increased biomass use in modern individual, communal and industrial heating appliances for heating, process heat and generating electricity is important for Slovenia to improve the reliability and competitiveness of its energy supply, to reduce greenhouse gas emissions and to protect the environment. As a primary energy, biomass also has an important part to play in transport.

4.6.1 Biomass supply: domestic and imported biomass

Table 7 provides an estimate of biomass supply accessible in the domestic market and from imports. Biomass supply covers biomass from:

(A) Forestry -
- (1) direct supply,
- (2) indirect supply;

(B) Agriculture and fisheries -
- (1) direct supply,
- (2) from by-products/processed products;

(C) Waste -
- (1) the biodegradable portion of solid municipal waste,
- (2) the biodegradable portion of solid industrial waste,
- (3) sewage sludge.

In the case of biogas and biofuels, the quantity of raw materials is defined. Information on biofuel imports is provided.

Table 7 Biomass supply in 2006

Sector of origin	Type of biomass	Amount of domestic resource [m^3]	Imported		Exported	Net amount [m^3]	Production of primary energy [ktoe]
			EU [m^3]	Non-EU [m^3]	EU/non-EU [m^3]		
(A) Biomass from forestry	1. direct supply of wood biomass from forests and other wooded land for energy generation	1,318,077	4,275	77,579	206,326	1,193,606	297
	Optional – if information is available						
	(a) felling	1,122,077	4,275	77,579	206,326	997,606	248
	(b) residues from felling (tops, branches, bark, stumps)						
	(c) landscape management residues (woody biomass from parks, gardens, tree rows)						
	(d) other[5]	196,000				196,000	49
		[t]	[t]	[t]	[t]	[t]	[ktoe]
	2. indirect supply of wood biomass for energy generation	408,611	0	0	41,000	367,611	145
	Optional – if information is available						
	(a) residues from sawmilling, woodworking and furniture industry (black lye, sawdust)	344,880	0	0	0	344,880	131
	(b) by-products of pulp and paper industry (black lye etc.)	36,308	0	0	0	36,308	6
	(c) processed wood fuel	50,000			41,000	9,000	4
	(d) post-consumer recycled wood (recycled wood for energy generation, household waste wood)	13,731	0	0	0	13,731	5
	(e) other						

[5] The origin sector (d) other includes: remains of felling (branches less than 7 cm in diameter, tops, stumps, wood from thinning where trees are less than 10 cm in diameter at chest height) and wood from non-forest areas (orchards, gardens, field borders).

Table 7 Biomass supply in 2006 – continued

Sector of origin	Type of biomass	Amount of domestic resource [m^3]	Imported	Exported		Net amount [m^3]	Production of primary energy [ktoe]
			EU [m^3]	Non-EU [m^3]	EU/non-EU [m^3]		
(B) Biomass from agriculture and fisheries	1. agricultural crops and fishery products directly provided for energy generation						
	Optional – if information is available						
	(a) arable crops (cereals, oilseeds, sugar beet, silage maize)						
	(b) plantations						
	(c) short rotation trees						
	(d) other energy crops (grasses)						
	(e) algae						
	(f) other						
	2. agricultural by-products/processed residues and fishery by-products for energy generation						
	Optional – if information is available						
	(a) straw						
	(b) barn manure						
	(c) animal fat						
	(d) meat and bone meal						
	(e) cake by-products (including shell and kernel)						
	(f) fruit biomass (including shell and kernel)						
	(g) fishery by-products						
	(h) vine, olive and fruit tree residues						
	(i) other						
		[t]	[t]	[t]	[t]	[t]	[ktoe]
(c) Biomass from waste	1. biodegradable fraction of municipal solid waste, including biowaste and landfill gas	6,366	0	0	0	6,366	
	2. biodegradable fraction of industrial waste (including paper, cardboard, pallets)	252	0	0	0	252	0,1
	3. sewage sludge						

Biomass from forestry

In estimating and calculating the quantities of wood biomass for energy production, a problem has been identified in the deficient statistics for the use of wood for energy purposes in households. According to analyses of the flows of log timber in Slovenia performed at the Slovenian Forestry Institute in the last five years, it is estimated that less than a quarter of the log timber direct from forests is used in households for heat and sanitary hot water.

Traditionally, primarily wood from deciduous trees has been used for heating. The results of various studies (surveys of forest owners) and statistical research by SORS (Census and sample censuses of agricultural holdings carried out in 2000, 2003, 2005 and2007) indicate that in the case of energy use of wood originating from forest felling, the ratio of deciduous to conifers is 90:10, and this is used in calculations.

To convert m^3 of wood into tons, for deciduous wood the calculation uses the value for beech, which predominates in firewood, and for conifers, the value for spruce. Densities with a water content of w = 20% are 0.730 t/m^3 for deciduous and 0.488 t/m^3 for conifers.

The input energy values are taken from SIST—TS CEN/TS 14961:2005 and are adjusted for a water content of 20% (w = 20%).

Records of felling in forests are available. The estimate of felling in non-forest areas is not directly included in any statistical or other periodic research. According to available case studies performed in Slovenia, it is estimated that 20% of wood used by households for energy purposes is not part of regular felling in forests, but felling outside forests (pastures, orchards, field borders, park areas etc.) and other timber (branches less than 7 cm in diameter, crowns, stumps and trees and bushes less than 10 cm thick at chest height). Based on estimates from the studies, the calculations assume that 20% of the wood used for energy in households is not part of regular felling and this portion is categorised as other. The net quantity is calculated according to the formula:

Net quantity = quantity of domestic sources – import + export

From the SORS database, for 2006 the quantities of imports and exports of log timber for energy purposes assumes the quantities placed under the combined nomenclature code (CN 8): 44011000 Wood for heating in round logs, blocks, branches, bundles or similar forms. Foreign trade data, which are given in tons, are converted into m through the conversion factor of 0.93 t/m (this factor is coordinated in confirmed by SORS and implemented in the conversions of official data). For complete data capture, account is taken of imports and exports of charcoal, which is converted into equivalent m^3 by the conversion factor of 6 m^3/t charcoal (this factor is used in reporting within UNECE). Production of charcoal is included in the total quantity of felling. It is assumed that all wood captured in CN 44011000, and charcoal in accordance with the description of codes, is used for energy. It is estimated that the reported quantities originate from forest wood. Equally, it is estimated that there are no imports and exports of wood for energy purposes in other subcategories.

Official data (SORS, Statistical Yearbook 2007) indicate that in 2006 the total felling of firewood was 983,560 m^3 (net) or 1,122,077 m^3 gross (of which 11% was conifers and 89% deciduous). In converting gross to net, a factor of 0.88 was used for deciduous and 0.85 for conifers. This quantity represents the quantity of domestic sources (felling), from which are

deducted exports while imports are added (converted into gross by a factor of 0.88), which represents a net quantity of 997,606 m^3.

In addition to biomass originating directly from forests and part of regular felling, on the basis of data from the balance of round logs an estimate is also made of the quantity of other wood and felling outside forests, which according to calculations amounted to: 196,000 m^3 (this quantity also includes waste from manufacturing and services, which in the statistical monitoring of waste generation is captured under the waste code 020107: waste from forest exploitation).

Residues from sawmilling, timber processing and furniture industry

The values in the table are calculated as balances on the basis of total quantities of wood residues used as fuel, in both cases. In calculating primary energy, account is taken of the average energy value for conifers and deciduous trees at w=15%, and this is 15.9 MJ/kg.

Pellets and briquettes

In calculating primary energy the following energy value was used: 16.9 MJ/kg.

End-of-life wood

Table 7 gives data on the use of end-of-life wood in households by results of the survey APEGG 2002. Data on the use of wood in households, given in m^3 (27,462 m^3), when converted by a factor of 0.5 t/m^3 is estimated at 13,731 tons. In calculating primary energy the following energy value was used: 16.7 MJ/kg.

Biomass from waste

In biomass from waste account was taken of the instructions and explanations and the division of waste stemming from the Rules on waste management (Off. Gaz. RS, No. 84/98, amended: Off. Gaz. RS, No. 45/00, 20/01, 13/03, 41/04-ZVO-1, 34/08) and from Regulation (EC) 1099/08 of the European Parliament.

In 2006 there were no incinerators for mixed municipal waste, while hazardous waste was incinerated with the aim of removal at companies with environmental permits for such waste handling.

By substance Table & shows the following municipal wastes, in line with the Waste Classification List (Annex to the Rules on waste management):

- WOOD

  - 15 01 03 Wood packaging (15 Waste packaging; absorbents, cleaning cloths, filter elements and protective clothing not listed elsewhere)

  - 17 02 01 Wood (17 Construction waste and waste from demolition of structures, including earth removal from polluted areas)

  - 20 01 38 Wood not listed under 20 01 37 (20 MUNICIPAL WASTE (household and similar waste from retail, industry and the public sector), including separately collected fractions)

- 20 02 01 Biodegradable waste (20 02 Waste from gardens and parks, incuding cemetery waste).

The total quantities of waste wood incinerated as fuel or removed for coincineration amounted for the reference year to 205 tons.

- PAPER

  - 15 01 01 Paper and cardboard packaging (15 Waste packaging; absorbents, cleaning cloths, filter elements and protective clothing not listed elsewhere)

  - 20 01 01 Paper and cardboard (20 02 Separately collected fractions) (20 MUNICIPAL WASTE (household and similar waste from retail, industry and the public sector), including separately collected fractions)

The total quantities of waste from paper incinerated as fuel or removed for coincineration amounted for the reference year to 47 tons.

Quantities of exploited methane generated in municipal landfills are based on ARSO data.

According to available data, no incineration of sludge as fuel was carried out. Equally, there are no data on imports and exports of waste intended for energy production.

The calculation of primary energy for waste wood, paper and cardboard uses the energy value of 16.7 GJ/t (according to JWEE), while for green waste a lower energy value is taken, 8.3 GJ/t.

Table 7a shows the expected use of biomass for 2015 and 2020, using the categorisation from Table 7.

Table 7a Supply of domestic biomass in 2015 and 2020

Sector of origin	Type of biomass	2015		2020	
		Expected amount of domestic resource [m^3]	Production of primary energy [ktoe]	Expected amount of domestic resource [m^3]	Production of primary energy [ktoe]
(A) Biomass from forestry	1. direct supply of wood biomass from forests and other wooded land for energy generation	1,302,000	324	1,338,000	1,333
	2. indirect supply of wood biomass for energy generation				
(B) Biomass from agriculture and fisheries	1. agricultural crops and fishery products directly provided for energy generation				
	2. agricultural by-products/processed residues and fishery by-products for energy generation				
(C) Biomass from waste	1. biodegradable fraction of municipal solid waste, including biowaste and landfill gas				
	2. biodegradable fraction of industrial waste (including paper, cardboard, pallets)				1
	3. sewage sludge				

Table 8 Use of agricultural land to cultivate crops intended for energy generation, 2006

Agricultural land use for production of dedicated energy crops	Surface [ha]
1. Land used for short rotation trees	0
2. Land used for other energy crops such as oilseed rape, grasses and grass mixtures, meslin, grain sorghum, mixtures of cereals without meslin, other	2,980*

* In 2006 a total of 1,930 ha of fields were sown with oilseed rape for energy purposes in Slovenia (source: AAMRD – subsidy applications). Meanwhile silage maize for biogas facilities was cultivated in 2006 on around 1,000 ha (source: Ministry of Agriculture, Forestry and Food estimate).

4.6.2 Measures to increase biomass availability

Mobilisation of new biomass sources

(a) Degraded land

In Slovenia there is no agricultural land considered to be degraded in the sense that it would not be suitable for arable crops that can be used for energy purposes.

(b) Unused arable land

According to the latest data, in Slovenia around 21,600 ha of agricultural land are unused (source: Records of actual use of agricultural land; MAFF). The majority of this land is pasture and grassland and fragmented land that does not represent a major potential for cultivating crops for energy purposes. The reasons for the land being left to overgrow are primarily eco-social in nature. Mainly land in areas of unfavourable natural conditions is abandoned.

(c) Measures for the use of unused fields for energy purposes

Special measures for the use of unused fields for energy purposes are not planned. Up until 2009, farmers were given the incentive of extra payments per ha for cultivating energy crops, but with reform of the Common Agricultural Policy in 2010 this was ended. Stimulus for appropriate use of agricultural land is provided in Pillar I of the Common Agricultural Policy in the form of non-production tied payments per ha, which carry the additional condition of adherence to the rules of cross-compliance, which lays down the minimum conditions for sustainable use of agricultural land. Under the Rural Development Programme, farmers have an additional stimulus to adhere to higher standards of land management and environmental protection.

The proposed amendments to the Agricultural Land Act contain a provision emphasising the importance of appropriate cultivation of agricultural land, and introducing the possibility of temporary management of land not being farmed by the owners.

(d) Use of primary materials (such as animal manure) for energy generation

Primary materials such as manure and liquid manure are already being used to produce energy.

(e) Promoting the production and use of biogas

Under the Rural Development Programme 2007-2013, the following measures are envisaged for promoting biogas use:

- Measure 121 – Modernising agricultural holdings;
  this measure promotes investments in the production of biogas from organic waste.
- Measure 123 - Added value for agricultural and forest products;
  this measure promotes investment in equipment to obtain energy from renewable sources for the holder's own needs.
- Measure 311 - Diversification into non-agricultural activities;
  this measure promotes the obtaining of energy for sale on farms from renewable sources, investments aimed at producing biogas using organic waste, investments

aimed at processing biomass for renewable energy sources, investments aimed at infrastructure for RES from biomass and other RES.
- Measure 312 - Support for establishing and developing microcompanies.

(f) Planned measures to improve forest management methods

Sustainable forest management has a long tradition in Slovenia, and it is also supported by the Resolution on the National Forest Programme (targets and trajectories in the use of wood, greatest permitted felling etc.) and by regulatory measures issued pursuant to the Forest Act (defining sustainable management). It is estimated that, given the criteria for achieving optimal stocks of timber in Slovenian forests, it would be possible to increase the yield of biomass from forests in a sustainable manner at least by as much as the existing amount of biomass used from forests. There are quite a few obstacles to implementing this measure to increase the use of a natural renewable resource, the main ones being poor forest road infrastructure and the unregulated system of sawing round logs, including the separation of poorer wood for use in the production of RES from high-quality wood suitable for making wood products. Improving forest management is a priority measure of sustainable economic development, founded on forest biomass as an important natural renewable resource. Awareness of the importance of sustainable use of forest biomass will stimulate primarily the use of wood to make products, mainly in construction, and indirectly this will facilitate the use of greater quantities of poorer quality wood for conversion into RES.

Impact on other sectors

(a) Monitoring the impact of energy use of biomass on other sectors

Increased use of forest wood biomass for RES is planned alongside the increased use of high-quality wood to manufacture wood products. Greater extraction of biomass from forests is planned chiefly owing to the greater production of wood products, which will have a significant impact on the use of RES. The use of energy from forest biomass, together with the use of high-quality wood to produce wood products, will contribute markedly to the development of certain activities in forestry and in the processing of round logs at sawmills. The growth in energy from forest wood biomass will be based reciprocally on the growth of other sectors tied to the exploitation of forest biomass, such that no negative impacts are envisaged on other sectors based on farming and forestry. In view of the criteria for achieving optimal stocks of timber in Slovenian forests, the greatest possible increase in annual use of forest biomass has been estimated at around 3 million tons, meaning a potential that suffices for the long-term development of the wood products industry and energy sector based on the use of RES, primarily on the production of second and third generation liquid biofuels. In order to claim the granted CO_2 sink owing to forest management, it is necessary each year in Slovenia's forests to accumulate on average in the Kyoto period at least 1,000,000 m^3 of wood (gross), while in fact on the basis of official data the estimated accumulation of timber growth is 3,816,000 m^3/year (as at 2006).

The impacts of the use of forest biomass for RES will also be monitored through regular monitoring of the production of wood products (SORS, IND-L survey), the production of wood remnants or waste (SORS, ODP survey), by monitoring firewood purchase prices (SORS, monitoring the purchase of round logs from private forests), monitoring the use of wood biomass in large energy facilities (SORS surveys E1 -EE/L, E2 -SP/L, E3-TOP/L) and through monitoring foreign trade (selected CN codes) and employment, as well as the impacts on added value in the wood and furniture industry.

(b) Impact of development in other sectors on availability of biomass

An important development orientation in the wood industry may lie in the optimum use of wood and efficient energy use. Consequently this orientation may lead to a reduction in the amount of unpolluted wood residues in the market. The amount of wood residues in the market may also be significantly reduced in the event of the wood and furniture industry being steered towards green energy generation (power and/or heat). We predict that owing to the increased prices of wood residues, there will be increased use of end-of-life wood for energy purposes.

4.7 Planned use of statistical transfers between Member States

and planned participation in joint projects with other Member States and third countries

4.7.1 Procedural aspects

(a) National procedures for arranging statistical transfers or joint projects

The preparation of guidelines for the national procedures for arranging statistical transfers of energy from renewable sources and participation in joint projects to generate electricity, heating and cooling from RES is defined as one of the measures of the action plan.

The guidelines for national procedures will provide the basis for the production and submission for adoption of a legislative solution that will define for statistical transfers:

- the competent authority for drawing up agreements on statistical transfers, probably the ministry responsible for energy,

- the conditions of transfer and the quantities of energy from renewable sources that is the subject of statistical transfer,

- the procedure for adopting agreements on statistical transfer and

- the method of reporting data on statistical transfer agreements to the Commission.

In relation to joint projects with other Member States and third countries, the adoption of the legislation will serve to define:

- the competent authority for registration of all kinds of joint projects agreed upon by state institutions or private investors,

- the method of dealing with joint projects (programme of joint projects),

- the criteria for acceptable sharing of the impacts of electricity generation and energy for heating and cooling from RES, and the impacts of projects for using RES in transport, among countries participating in a joint project, and

- the method of notifying the Commission about the share or quantity of electricity and energy for heating and cooling from RES and projects for using RES in transport produced as part of a specific joint project.

(b) Private entities and joint projects

Equal representation is envisaged for persons governed by private and public law in formulating and implementing joint projects, whereby all joint project proposals will have to obtain the approval of the ministry responsible for energy.

(c) Criteria for determining when statistical transfers or joint projects will be used

Trajectories for the use of statistical transfers or joint projects will be formulated in the National Energy Programme, while the method of approval and competence will be defined in detail in the legislative solution that will regulate statistical transfers and joint projects with other Member States and third countries.

(d) Mechanism for involving other interested Member States in a joint project

It is envisaged that, in order to avoid lengthy procedures for concluding international agreements in accordance with the law, agreements on joint projects with other Member States will be concluded by the Slovenian Government, and the minister responsible for energy will conduct the procedures prior to conclusion of such agreement. Agreements on involving other interested Member States in joint projects will contain in particular the specification of the type of project activities, indication of the authorities responsible for approving the joint investment and a definition of the method of cooperation between the two countries.

(e) Willingness to participate in joint projects in other Member States

Slovenia will strive to improve the conditions for agreements on joint investments as an important instrument for environmental and energy policy in the area of RES, and the development of this in terms of ensuring achievement of the set targets.

With the aim of achieving the necessary quantitative targets for final energy consumption from RES for heating and cooling, electricity and transport in the period 2010-2020, Slovenia will prepare for participation in joint projects in other Member States, if it turns out that it will not be able to achieve the set targets. To this end a legislative amendment will be proposed that will include management of the effects of joint projects in other Member States. In line with the amendments to the Energy Act, and on the proposal of the minister responsible for energy, the Slovenian Government will (as expected) adopt a programme of joint projects. This programme will define in particular the necessary qualitative goals within the joint projects that the state may need for fulfilment of the obligation to achieve a 25% share of energy from RES in final energy consumption by 2020, the method of achieving this within joint projects in other Member States and incentives for the implementation of joint projects.

The action plan does not set out any additional capacities for the production of heating/cooling and electricity from RES in other Member States. The method of implementation and the programme of support for joint projects in other Member States will be defined in detail as part of the implementation of action plan measures.

4.7.2 Estimated excess production of renewable energy

The guidelines for the legislative solution for arranging statistical transfers and joint projects with other Member States and third countries will be defined in detail in the new National Energy Programme.

Table 9 gives the estimated excess and/or deficit in production of energy from renewable sources compared to the indicative trajectory that could be transferred to other Member States or from them to Slovenia.

Table 9 Estimated excess and/or deficit production of renewable energy

[ktoe]	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated excess in forecast	0	0	0	0	0	0	0	0	0	0	0
Estimated excess in NREAP	0	0	0	0	0	0	0	0	0	0	0
Estimated deficit in forecast	0	0	0	0	0	0	0	0	0	0	0
Estimated deficit in NREAP	0	0	0	0	0	0	0	0	0	0	0

4.7.3 Estimated potential for joint projects

(a) Sectors in Slovenia suitable for joint projects

The sectors in Slovenia suitable for joint projects have not been defined.

(b) Technologies and capacities for possible joint projects in Slovenia

The technologies and capacities for possible joint projects in Slovenia have not been defined.

(c) Sites for joint projects

The sites for joint projects have not been defined.

(d) Potential for joint projects in other Member States or third countries

For the moment the potentials for joint projects in other Member States or third countries have not been planned.

(e) Priority technologies

No preferred technologies have been defined.

4.7.4 Demand for energy from renewable sources from non-domestic production

The required share of renewable energy sources in final energy consumption in 2020 will be achieved from domestic sources.

5 Assessments

5.1 Expected total contribution of all technologies for obtaining energy from renewable sources

The contribution of each technology for obtaining energy from renewable sources to the trajectory and targets for 2020 in the sectors of electricity, heating, cooling and transport is estimated in a possible future scenario. In the electricity sector, for the individual technology the expected (cumulative) installed capacity (in MW) and annual generation (GWh) is specified. In the case of hydroenergy, an evaluation is made of the contribution of plants with less than 1 MW_e, between 1 and 10 MW_e and over 10 MW_e installed capacity. For solar energy, data are given separately for contributions from photovoltaic and concentrated solar energy, where the projected consumption takes into account the limitations for photovoltaic RES generating plants placed in the open air, which may be subject to decisions allocating support at most up to the total capacity of rated electricity output of these facilities of 5 MW_e a year. Data on wind energy are given separately for land and sea. As for biomass, electricity generation is assessed for biomass in solid, gaseous and liquid state.

In making estimates for the heating and cooling sector, estimates are given of the installed capacity and production for technologies exploiting geothermal and solar energy, heat pumps and biomass, where biomass is separated into solid, gaseous and liquid biomass. An estimate is given of the contribution of district heating systems using RES.

The contribution of different technologies to the target for RES in the transport sector is set out with an indication of standard biofuels (bioethanol and biodiesel), biofuels from waste and residues, biofuels from non-food cellulose or wood pulp, biogas, electricity from RES and hydrogen from RES, Table 12.

Table 10a RES technology for electricity – estimated total contribution to the binding targets for 2020 and indicative shares for 2010-2014

	2005		2010		2011		2012		2013		2014	
	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]
Hydroenergy	981	4,099	1,071	4,198	1,071	4,198	1,071	4,198	1,136	4,413	1,140	4.431
< 1 MW	108	451	118	262	118	262	118	262	120	268	120	269
1 MW - 10 MW	37	155	37	192	37	192	37	192	37	194	41	210
> 10 MW	836	3,493	916	3,744	916	3,744	916	3,744	979	3,952	979	3.952
Of which pumping	0	0	0	0	0	0	0	0	0	0	0	0
Geothermal energy	0	0	0	0	0	0	0	0	0	0	0	0
Solar energy	0	0	12	12	17	17	22	22	27	27	32	32
Photovoltaic	0	0	12	12	17	17	22	22	27	27	32	32
Concentrated solar power	0	0	0	0	0	0	0	0	0	0	0	0
Tidal, wave energy	0	0	0	0	0	0	0	0	0	0	0	0
wind energy	0	0	2	2	2	4	2	4	8	14	8	14
Onshore	0	0	2	2	2	4	2	4	8	14	8	14
Offshore	0	0	0	0	0	0	0	0	0	0	0	0
Biomass	18	114	51	298	59	344	67	415	74	457	78	482
Solid	15	82	22	150	22	152	23	156	24	158	24	158
Biogas	3	32	30	148	36	192	44	259	50	299	54	323
Liquid biofuel (1)	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	999	4,213	1,136	4,510	1,149	4,563	1,162	4,639	1,245	4,912	1,258	4.959
Of which in CHP	18	114	51	298	59	344	67	415	74	457	78	482

Table 10b RES technology for electricity – estimated total contribution to the binding targets for 2020 and indicative shares for 2015-2020

	2015		2016		2017		2018		2019		2020	
	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]	[MW]	[GWh]
Hydroenergy	1,193	4,559	1,227	4,662	1,232	4,685	1,318	5,003	1,318	5,003	1,354	5,121
< 1 MW	120	270	120	270	120	270	120	270	120	270	120	270
1 MW - 10 MW	52	247	52	247	57	270	57	270	57	270	57	270
> 10 MW	1,021	4,042	1,055	4,145	1,055	4,145	1,141	4,463	1,141	4,463	1,176	4,581
Of which pumping	0	0	0	0	0	0	0	0	0	0	0	0
Geothermal energy	0	0	0	0	0	0	0	0	0	0	0	0
Solar energy	37	37	49	49	63	63	82	82	107	107	139	139
Photovoltaic	37	37	49	49	63	63	82	82	107	107	139	139
Concentrated solar power	0	0	0	0	0	0	0	0	0	0	0	0
Tidal, wave energy	0	0	0	0	0	0	0	0	0	0	0	0
Wind energy	60	109	60	109	60	109	60	109	106	191	106	191
Onshore	60	109	60	109	60	109	60	109	106	191	106	191
Offshore	0	0	0	0	0	0	0	0	0	0	0	0
Biomass	83	623	85	637	93	659	95	672	95	675	96	676
Solid	24	272	26	282	33	300	34	309	34	309	34	309
Biogas	58	351	59	355	60	360	60	363	61	366	61	367
Liquid biofuel f[1])												
TOTAL	1,373	5,328	1,420	5,456	1,448	5,516	1,555	5,865	1,626	5,975	1,693	6,126
Of which in CHP	83	623	85	637	93	659	95	672	95	675	96	676

Table 11 RES technology for heating and cooling – estimated total contribution to the binding targets for 2020 and indicative shares for 2010-2020

[ktoe]	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Geothermal energy	16	18	18	18	19	19	19	19	20	20	20	20
Solar energy	3	5	6	7	8	9	10	12	15	17	19	21
Biomass	445	415	431	447	463	479	495	501	507	513	519	526
Solid	401	415	429	442	456	470	483	486	489	492	495	497
Biogas	0	0	0	0	0	0	0	0	0	0	0	0
Liquid biofuel (1)	43	0	2	5	7	9	12	15	18	22	25	28
Renewable energy from heat pumps	2	8	14	20	26	31	37	41	46	50	54	58
Aerothermal	0	1	2	3	4	5	7	8	10	11	12	14
Geothermal	0	4	9	13	17	22	26	29	31	34	36	38
Hydrothermal	0	2	3	3	4	4	5	5	5	5	5	5
TOTAL	465	445	469	492	515	538	561	574	587	600	612	625
District heating	8	17	20	24	27	30	34	36	39	42	45	48
In households	329	332	343	354	365	376	387	388	389	391	392	394

Table 12 RES technology in transport – estimated total contribution to the binding targets for 2020 and indicative shares for 2010-2020

[ktoe]	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bioethanol/bio-ETBE	0.0	3.9	4.1	4.6	5.3	6.4	7.6	9.2	11.1	13.2	15.7	18.5
Of which biofuels (1) Article 21(2)												
Of which imported (2)												
Biodiesel	0.0	36.6	38.8	43.3	50.2	59.6	71.6	86.3	103.8	124.2	147.4	173.7
Of which biofuels Article 21(2)												
Of which imported (3)												
Hydrogen from renewables												
Renewable electricity	3.9	5.4	6.0	6.2	6.5	6.7	7.0	7.5	8.2	9.0	9.7	10.5
Of which road transport	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.5	0.7	0.9	1.1
Of which non-road transport	3.9	5.4	6.0	6.2	6.4	6.6	6.8	7.2	7.8	8.3	8.8	9.4
Others (such as biogas, vegetable oils etc.)												
Of which biofuels (1) Article 21(2)												
TOTAL	3.9	45.9	48.9	54.1	62.1	72.7	86.2	103.1	123.1	146.3	172.8	202.7

(1) Biofuels included in Article 21(2) of Directive 2009/28/EC.
(2) From the whole amount of bioethanol/bio-ETBE.
(3) From the whole amount of biodiesel.

5.2 Contribution from energy efficiency measures to meet the binding 2020 targets and the trajectory regarding the shares of energy from renewable sources in electricity, heating and cooling and transport

The expected total contribution of energy efficiency and energy saving measures in achieving the binding targets for 2020 and the trajectory for the shares of energy from renewables in electricity, heating and cooling and transport are given in Table 1, chapter 2.

5.3 Assessment of impacts

In addition to their achieving the prescribed share of renewable electricity in final gross consumption, existing and envisaged measures are assessed in terms of economic and environmental impacts set out in Table 13 for 2020. The promotion of renewable sources of electricity on the one hand currently still requires subsidies – for mature technologies up until the external cost is entirely internalised, and for new technologies in the development phase. On the other hand this creates favourable conditions for investments that, in the short term (design, construction and installation) and long term (operation and maintenance), will ensure new jobs.

The expected use of renewable electricity set out in Table 13 represents the share of energy in 2020 from facilities that will be set up between 2010 and 2020. Almost half the energy produced will come from large hydroelectric stations, which amounts to half the estimated investments and a tenth of the subsidies for generating electricity from renewable sources. By share of envisaged investments, in second place with a quarter share is the photovoltaic exploitation of solar energy, which in total generation from new installations represents 7.7% of energy generated and has the highest share of employment for design, construction and installation.

The greatest share of subsidies for obtaining electricity from renewables will be used for biomass, which will also account for the highest share of long-term employment for operation and maintenance, and included in this are jobs necessary for preparing fuel (wood biomass).

The investments and expected employment for operation and maintenance have been estimated on the basis of a methodology of reference costs for determining the level of support for electricity generated from RES and in CHP, except for large hydroelectric stations (over 10 MW_e) where investments are estimated on the basis of project documentation.

The estimate of new jobs for designing, constructing and installing takes account of the coefficients used in its estimates by the European Renewable Energy Council (EREC) for the area of OECD Europe, and covers only direct employment in implementing projects and production facilities, and not indirect and induced employment. The estimate is expressed as the quantity of man-years between 2010 and 2020 necessary for ensuring the envisaged capacities of renewable sources of electricity. On average, promoting the generation of electricity from RES will provide employment of 18 man-years per MW_e of installed capacity, or 6 man-years per GWh of generated electricity, which in the next ten years, together with employment in the area of operation and maintenance will represent an additional 2.4 jobs per MW_e.

The expected additional reduction in greenhouse gases owing to the construction and use of new facilities for obtaining electricity from RES will represent in 2020 a total of 608 kt CO_2 equiv., which is proportionate to the envisaged generation of electricity from RES.

In the area of transport, in 2020 the expected reduction in greenhouse gases will total 592 kt CO_2 equiv. The calculation of GHG emission savings takes into account the fact that liquid biofuels are CO_2 neutral, which means that the CO_2 released in their use is not taken into account. This methodology is in line with the IPCC[6] instructions for calculating records of GHG emissions.

[6] Intergovernmental Panel on Climate Change (http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html)

Table 13 Estimated costs and benefits of the renewable energy policy support measures

Measure/technology	Increased use of renewable energy sources 2010-2020 [ktoe]	Costs of support 2010-2020 [EUR million]	Investments 2010-2020 [EUR million]	Reduction in greenhouse gas emissions (2020) [ktCO2/year]	Job creation for operation and maintenance (2020) [No. of jobs]	Job creation (design, construction, installation) (2010-2020) [man years]
Electricity	150.13	456.06	1.313.60	607.62	339	10,603
Hydroenergy	79.39	57.34	692.71	321.30	87	3,226
sHE (< 1MW)	0.71	2.39	4.41	2.85	1	36
sHE (1 - 10MW)	6.69	7.97	30.60	27.07	7	247
HE (10 - 125MW)	71.99	46.98	657.70	291.38	78	2,944
Solar energy	11.52	90.09	311.03	46.62	40	5,487
Wind energy	16.39	22.90	115.88	66.34	11	1,625
Geothermal energy	0.00	0.00	0.00	0.00	0	0
Biomass	42.83	285.72	193.98	173.36	202	266
Solid	20.96	92.60	43.60	84.82	77	89
Biogas	21.88	193.12	150.38	88.54	125	176
Heating and cooling	189.28	442.06	1.801.77	435.86	246	817
Geothermal energy	3.24	4.14	10.34	7.47	/	/
Solar energy	17.95	32.87	469.58	41.32	/	/
Biomass	114.62	303.85	759.63	263.93	246*	817**
Solid	86.41	303.85	759.63	198.98	246	817
Biogas	0.00	0.00	0.00	0.00	/	/
Liquid biofuel	28.20	0.00	0.00	64.94	/	/
RES (heat pumps)	53.48	101.21	562.22	123.14	/	/
aerothermal	13.29	6.36	51.94	30.61	/	/
geothermal	36.91	83.76	478.60	84.99	/	/
hydrothermal	3.27	11.09	31.68	7.54	/	/
Transport	192.21	/	/	592.17	/	/
Bioethanol/bio-ETBE	18.50	/	/	56.54	/	/
Biodiesel	173.71	/	/	535.63	/	/

* - direct employment; ** - indirect and induced employment

5.4 Preparation of the National Renewable Energy Action Plan and the follow-up of its implementation

a) The National Renewable Energy Action Plan has been prepared simultaneously with the National Energy Programme drawn up pursuant to Article 13 of the Energy Act (EZ-UPB2) (Off. Gaz. RS, No. 27/07 - official consolidated text, 70/08 and 22/10) by the ministry responsible for energy. The National Energy Programme sets the long-term development targets and trajectories of energy systems and energy supply, taking account of environmental and technological criteria, the development of public infrastructure and infrastructure of national importance and incentives and mechanisms for promoting the use of renewable energy sources and implementing energy efficiency measures. The National Energy Programme contains targets, trajectories and a strategy for energy consumption and supply, measures to meet the targets, perspectives of energy balances and an estimate of the impacts regarding the attainment of secure and reliable supply for users of energy services under market principles and the principles of sustainable development, taking into account its efficient use, the prudent exploitation of RES and conditions for protecting the environment. The National Energy Programme is adopted by the Slovenian National Assembly on the proposal of the Slovenian Government.

The National Renewable Energy Action Plan has made use of all the expert guidelines in the preparation of the National Energy Programme, and is a constituent part of it. The new National Energy Programme will be submitted for adoption to the National Assembly this year. Formulation of the Programme took into account the local energy concepts made to date, which are prepared for their further development by local communities.

b) Alongside the upgrading of the local energy concepts, the creation of local strategies for the exploitation of renewable energy sources is planned. In particular the emphasis will be on the heating sector, where we wish to take advantage of heating in district systems using wood biomass.

c) The draft national action plan was presented at a public energy conference in April 2010. In May 2010 it was published on the web portal of the Ministry of the Economy. We evaluated the comments and after weighing them up, incorporated them into the NREAP. Public consultation will continue with the public unveiling of the National Energy Programme, since the action plan is part of it. In preparing the NREAP we established active cooperation with the IEE RE-Shaping project.

d) The national contact point for monitoring the NREAP is the ministry responsible for energy.

e) The ministry responsible for energy is responsible for monitoring implementation of the NREAP. The ministry reports once a year to the Slovenian Government on the implementation and impacts of the plan.

The assessment of achieving the set annual targets in the NREAP will use indicators in line with the international methodology prescribed for reporting in international agreements and at the EU level.

The obligatory indicators for following up implementation of the National Renewable Energy Action Plan are as follows:

- the share of RES in final energy consumption in individual years,

- the share of RES in energy consumption in the heating and cooling sector in individual years,
- the share of RES in energy consumption in the electricity sector in individual years,
- the share of RES in energy consumption in the transport sector in individual years,
- total annual consumption of energy in the heating and cooling sector,
- total annual consumption of energy in the electricity sector,
- total annual consumption of energy in the transport sector,
- annual consumption of funds to promote EEU and RES.

Key indicators for following up implementation of the National Renewable Energy Action Plan are as follows:

Target	Indicator	Unit
Achieving a 25-percent target share of RES pursuant to Directive 2009/28/EC	Share of RES	%
	Share of electricity generation from RES	%
	Share of heat production from RES	%
	Share of RES in transport	%
Achieving a 10-percent target share of RES in transport pursuant to Directive 2009/28/EC	Share of RES in transport	%
Achieving the target share of RES in heat production under the NREAP	Geothermal energy	ktoe
	Heat pumps	ktoe
	Solar energy	ktoe
	Biomass	ktoe
Achieving the target share of RES in electricity generation under the NREAP	Hydroenergy	GWh
	Geothermal energy	GWh
	Solar energy	GWh
	Wind energy	GWh
	Biomass	GWh
Achieving the target share of RES in transport under the NREAP	Bioethanol	ktoe
	Biodiesel	ktoe
	Hydrogen	ktoe
	Electricity	ktoe
	Vegetable oils	ktoe
Effectiveness of public funds in promoting RES	Specific cost of promotion per energy generated from RES	EUR/MWh/year
	Financial leverage (relationship between public funds and investment)	1
	Realised investment	EUR million
Efficiency of procedures	Number of delays	No.
	average length of delays	months/No.
	unresolved procedures	No.
	number of resolved procedures	No./year

ANNEXES

Annex I

5.5 Setting the prices of electricity for guaranteed purchase

With regard to the RES used and the size class of the generating plant, the guaranteed purchase prices are identical to the reference costs, and comprise two parts:

1. the invariable portion of the guaranteed purchase price is identical to the invariable portion of the reference costs, and does not change throughout the duration of the contract on guaranteed purchase;

2. the variable portion of the guaranteed purchase price is identical to the variable portion of the reference costs, where this is determined, and is harmonised annually or more frequently upon publication of the reference prices of fuel.

For RES generating plants for which the variable portion of the guaranteed purchase price is not determined, only the price of guaranteed purchase is indicated.

Guaranteed purchase prices for electricity in contracts on guaranteed purchase

1 Guaranteed purchase prices for electricity from RES generating plants using hydroenergy

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	105.47
small (< 1 MW)	92.61
medium (up to 5 MW)	82.34

2 Guaranteed purchase prices for electricity from RES generating plants using wind energy

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	95.38
small (< 1 MW)	
medium (up to 5 MW)	

3 Guaranteed purchase prices for electricity from RES generating plants using solar energy

3.1 Guaranteed purchase prices for electricity from RES generating plants using solar energy installed on buildings or civil constructions

	Guaranteed purchase price [EUR/MWh]	
Size class of generating plant	On buildings or civil constructions	Constituent part of the building shell or of building elements[1]
micro (< 50 kW)	415.46	477.78
small (< 1 MW)	380.02	437.03
medium (up to 5 MW)	315.36	362.67

[1] RES generating plant as defined by Article 14(2) of the Decree.

3.2 Guaranteed purchase prices for electricity from RES generating plants using solar energy installed as free-standing structures[1]

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	390.42
small (< 1 MW)	359.71
medium (up to 5 MW)	289.98

[1] Free-standing structures from class 2302 in accordance with the regulation governing the standard classification of structures.

4 Guaranteed purchase prices for electricity from RES generating plants using geothermal energy

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	152.47
small (< 1 MW)	
medium (do 5 MW)	

Where the annual useful heat extraction exceeds 30% of the input geothermal energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant.

5 Guaranteed purchase prices for electricity from RES generating plants using wood biomass, where the wood biomass represents more than 90% of the supplied primary energy fuel

Size class of generating plant	Invariable portion of guaranteed purchase price [EUR/MWh]	Variable portion of guaranteed purchase price [EUR/MWh]	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	[1]	[1]	[1]
small (< 1 MW)	161.95	62.40	224.35
medium (up to 5 MW)	115.52	51.92	167.43

[1] This is determined for each individual case separately in the same way as for plants referred to in Article 3(2) of the Decree.

6 Guaranteed purchase prices for electricity from RES generating plants using biogas

Where the annual useful heat extraction exceeds 15% of the input geothermal energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant. Heat from biogas plants used for obtaining biogas is not deemed to be useful heat.

Where manure and slurry represent annually more than 30% of the volume of substrate for obtaining biogas, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant. Where manure and slurry represent annually more than 70% of the volume of substrate for obtaining biogas, RES generating plants with a rated output of up to 200 kW are eligible for payment of a supplement amounting to 20% of the operating support for this RES plant.

6.1 Guaranteed purchase prices for electricity from RES generating plants using biogas produced from biomass

Size class of generating plant	Invariable portion of guaranteed purchase price [EUR/MWh]	Variable portion of guaranteed purchase price [EUR/MWh]	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	118.72	41.33	160.05
small (< 1 MW)	111.75	44.00	155.76
medium (up to 5 MW)	96.18	44.59	140.77

6.2 Guaranteed purchase prices for electricity from RES generating plants using biogas produced from biodegradable waste

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	139.23
small (< 1 MW)	
medium (up to 5 MW)	129.15

7 Guaranteed purchase prices for electricity from RES generating plants using gas from sewage sludge

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	85.84
small (< 1 MW)	74.42
medium (up to 5 MW)	66.09

Where the annual useful heat extraction exceeds 15% of the input energy of the gas from sewage sludge, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant. Heat used to obtain gas is not deemed to be useful heat.

8 Guaranteed purchase prices for electricity from RES generating plants using landfill gas

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	99.33
small (< 1 MW)	67.47
medium (up to 5 MW)	61.67

Where the annual useful heat extraction exceeds 15% of the input energy of the landfill gas, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant.

9 Guaranteed purchase prices for electricity from RES generating plants using biodegradable waste

Size class of generating plant	Guaranteed purchase price [EUR/MWh]
micro (< 50 kW)	/
small (< 1 MW)	77.44
medium (up to 5 MW)	74.34

Where the annual useful heat extraction exceeds 30% of the input biodegradable waste energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support for this RES plant.

Annex 2

5.6 Setting the level of operating support for electricity

Level of operating support

Operating support is determined by deducting from the total reference costs for an RES generating plant and size class given in Annex I, which are harmonised annually or more frequently depending on the reference costs of energy products, the price that electricity from the RES generating plant could obtain in the electricity market.

The level of operating support in EUR/MWh is determined by the following equation:

operating support (year i) = reference costs (year i) - reference price of electricity (year i) x B

The reference price of electricity is the anticipated market price of electricity given in the Energy Agency's forecast reference market energy prices.

Factor B reflects the features of operation of individual types of RES generating plant and thereby the quality of electricity production and market strength, which affect the obtained price of electricity from such generating plants in the electricity market.

In exceptions the operating support for RES generating plants using wood biomass in the coincineration of fossil energy products, where biomass represents less than 5% of the total primary energy supplied, is equal to the determined reference costs.

Factor B for RES generating plant size classes

SIZE CLASS	HYDROENERGY	WIND	SOLAR ENERGY	GEOTHERMAL ENERGY	BIOMASS	BIOGAS	SEWAGE SLUDGE GAS	LANDFILL GAS	BIODEGRADABLE WASTE
MICRO (< 50 kW)	0.86	0.80	0.88	0.92	0. 88	0.88	0.92	0.92	0.92
SMALL (< 1 MW)	0.86	0.80	0.88	0.92	0.91	0.91	0.92	0.92	0.92
MEDIUM (up to 10 MW)	0 90	0. 80	0.91	0.92	0.92	0.92	0.92	0.92	0.92
LARGE (up to 125 MW)	0.90	0.86	1	0.92	0.92	1	1	1	0.92

1 Operating support for electricity from RES generating plants using hydroenergy

Size class generating plants	Operating support EUR/MWh/year
micro (< 50 kW)	49.57
small (< 1 MW)	36.71
medium (up to 10 MW)	23.84
large (up to 125 MW)	18.07

2 Operating support for electricity from RES generating plants using wind energy

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	43.38
small (< 1 MW)	
medium (up to 10 MW)	
large (up to 125 MW)	30.84

3 Operating support for electricity from RES generating plants using solar energy

3.1 Operating support for electricity from RES generating plants using solar energy installed on buildings or civil constructions

Size class of generating plant	Operating support [EUR/MWh]	
	On buildings or civil constructions	Constituent part of the building shell or of building elements(1)
micro (< 50 kW)	358.26	420.58
small (< 1 MW)	322.82	379.83
medium (up to 10 MW)	256.21	303.52
large (up to 125 MW)	215.71	257.82

[1] RES generating plant as defined by Article 14(2) of the Decree.

3.2 Operating support for electricity from RES generating plants using solar energy installed as free-standing structures[1]

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	333.22
small (< 1 MW)	302.51
medium (up to 10 MW)	230.83
large (up to 125 MW)	204.22

1 Free-standing structures from class 2302 in accordance with the regulation governing the standard classification of structures.

4 Operating support for electricity from RES generating plants using geothermal energy

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	[1]
small (< 1 MW)	92.67
medium (up to 10 MW)	
large (up to 125 MW)	[1]

1 This is determined for each individual case separately in the same way as for plants referred to in Article 3(2) of the Decree.

Where the annual useful heat extraction exceeds 30% of the input geothermal energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support.

5 Operating support for electricity from RES generating plants using biomass

5.1 Operating support for electricity from RES generating plants using wood biomass, where the wood biomass represents more than 90% of the supplied primary energy fuel

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	[1]
small (< 1 MW)	165.20
medium (up to 10 MW)	107.63
large (up to 125 MW)	[1]

[1] This is determined for each individual case separately in the same way as for plants referred to in Article 3(2) of the Decree.

5.2 Operating support for electricity from RES generating plants using wood biomass in coincineration with fossil energy products, where the wood biomass represents more than 5% of the supplied energy fuel

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	42.74
small (< 1 MW)	
medium (up to 10 MW)	
large (up to 125 MW)	[1]

[1] This is determined for each individual case separately in the same way as for plants referred to in Article 3(2) of the Decree.

5.3 Operating support for electricity from RES generating plants using wood biomass in coincineration with fossil energy products, where the wood biomass represents less than 5% of the supplied energy fuel

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	26.40
small (< 1 MW)	
medium (up to 10 MW)	
large (up to 125 MW)	

6 Operating support for electricity from RES generating plants using biogas

6.1 Operating support for electricity from RES generating plants using biogas produced from biomass

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	102.85
small (< 1 MW)	96.61
medium (up to 10 MW)	80.97
large (up to 125 MW)	/

6.2 Operating support for electricity from RES generating plants using biogas produced from biodegradable waste

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	/
small (< 1 MW)	80.08
medium (up to 10 MW)	69.35
large (up to 125 MW)	/

Where the annual useful heat extraction exceeds 15% of the input biogas energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support. Heat from biogas plants used for obtaining biogas is not deemed to be useful heat.

Where manure and slurry represent annually more than 30% of the volume of substrate for obtaining biogas, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support.

Where manure and slurry represent annually more than 70% of the volume of substrate for obtaining biogas, RES generating plants with a rated electricity output of up to 200 kW are eligible for payment of a supplement amounting to 20% of the operating support.

7 Operating support for electricity from RES generating plants using sewage sludge gas

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	26.04
small (< 1 MW)	14.62
medium (up to 10 MW)	6.94
large (up to 125 MW)	/

Where the annual useful heat extraction exceeds 15% of the input energy of the gas from sewage sludge, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support.

8 Operating support for electricity from RES generating plants using landfill gas

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	39.53
small (< 1 MW)	7.67
medium (up to 10 MW)	2.52
large (up to 125 MW)	/

Where the annual useful heat extraction exceeds 15% of the input landfill gas energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support.

9 Operating support for electricity from RES generating plants using biodegradable waste

Size class of generating plant	Operating support [EUR/MWh]
micro (< 50 kW)	/
small (< 1 MW)	17.64
medium (up to 10 MW)	14.54
large (up to 125 MW)	/

Where the annual useful heat extraction exceeds 30% of the input biodegradable waste energy, the RES generating plant is eligible for payment of a supplement amounting to 10% of the operating support.