



REPUBLIC OF SLOVENIA
MINISTRY OF THE ECONOMY
Directorate for Energy

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**Report of the Republic of Slovenia to the European Commission on the
implementation of Directive 2001/77/EC of the European Parliament and of
the Council on the promotion of electricity produced from renewable energy
sources**

Ljubljana, February 2006

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1 INTRODUCTION

Article 3 of Directive 2001/77/EC of the European Parliament and of the Council on the promotion of electricity produced from renewable energy sources in the internal electricity market provides that Member States shall publish, for the first time not later than 27 October 2003 and thereafter every two years, a report which includes an analysis of success in meeting national indicative targets, taking account, in particular, of climatic factors likely to affect the achievement of those targets and which indicates to what extent the measures taken are consistent with the national climate change commitment.

Further on, Article 5 provides that in this report Member States shall outline the measures taken to ensure the reliability of the system designed to guarantee the origin of electricity.

The report shall also contain an evaluation of the existing legislative and regulatory framework with regard to authorisation procedures or the other procedures laid down in Article 4 of Directive 96/92/EC and which are applicable to production plants for electricity produced from renewable sources, with a view to:

- reducing regulatory and non-regulatory barriers in order to increase the production of electricity from renewable sources,
- streamlining and expediting procedures at the appropriate administrative level, and
- ensuring that the rules are objective, transparent and non-discriminatory, and take fully into account the particularities of the various renewable energy source technologies.

Furthermore, in the report referred to in Article 6(2), the Member States shall also study the measures that need to be adopted in order to guarantee easier access to the network for electricity produced from renewable sources. The report must, among other things, evaluate the feasibility of the introduction of two-way metering.

2 BACKGROUND

The structure of energy vector supply at the primary energy level (PE) was similar in 2004 to previous years: solid fuels 21.6 % %, oil and derivatives 33.7 % %, natural gas 14 % %, nuclear energy 20 % and renewable sources 11.7 %.

The growth in final energy consumption in 2004 was 2.6 %, which is slightly more than the 2.1 % average annual growth since 2000. The greatest increase in 2004 was in the use of electricity and natural gas, by respectively 4.0 % and 3.9 %. In comparative terms, final consumption of electricity has increased by an average of 4.5 % a year since 2000, while final consumption of natural gas has increased by 2.9 % a year in the same period.

The characteristics of energy supply and consumption in 2004 in comparison to movements in the period 2000 to 2004 show the following:

- per capita primary energy consumption increased by 3.4 % in 2004, while average annual growth was uniform from 2000 to 2004 (2.6 %),
- per capita final energy consumption is growing more slowly than primary energy consumption: in 2004 it increased by 2.6 %, while in the last four years it has increased by an average 2.0 % annually, and
- per capita electricity generation increased by 10.5 % in 2004, while four-year average growth is different, amounting to 2.8 %. Average annual growth in electricity consumption has been 4.5 % since 2000. In 2004 it was 4 %.

All indicators of energy consumption and supply point to movements that are significantly worse than the expectations of energy policy. This means that existing energy policy mechanisms have not achieved the expected effects.

Electricity consumption is growing more rapidly than the consumption of all other types of energy products. Since 2000 final consumption of electricity has increased by on average 4.5 % a year and in the last year by 4 %. This exceeds planned growth and it is therefore essential to devote more attention to this sector in planning measures to reduce growth. In the structure of final electricity consumption, industry accounts for the largest share (53 %), followed by households (24 %) and services (21 %). The growth in final energy consumption is affected by these sectors in different ways: in 2004 the key share was contributed by industry, while household consumption and other general consumption was considerably less. This was the sector that increased most in 2002 and 2003.

The growth in final electricity consumption exceeds all expectations and presents a serious risk to the long-term reliability of energy supply. For this reason energy production from coal, which is less environmentally suitable, is increasing, as are electricity imports. The reasons should be sought in the non-implementation of measures to direct electricity consumption (demand side management), an unsuitable price policy and a highly energy intensive economy by European standards – connected to the structure of the economy, which is only slowly changing towards less energy intensive sectors.

Because electricity consumption has grown faster than the generation of electricity from renewables, the share of electricity obtained from renewable sources fell from 31.7 % in 2000 to 29.1 % in 2004. Hydrological conditions have caused some sharp peaks and troughs over the years, for example 22 % in 2003, a drought year. In the primary balance in 2004 the share of renewables was 11.7 % or 1.2 percentage points higher than the year before; however there is no increase in the long term.

A long-term tendency towards a gradual increase in electricity generation from renewables can be observed (besides hydro power, production from wood biomass and landfill gas is also increasing). However, owing to the faster growth in consumption, the share of renewables in electricity consumption is falling and is therefore moving us further from achieving the target of 33.6 % which is an obligation under Slovenia's EU accession treaty.

As a result of insufficient development in recent years, in order to achieve binding targets in the sphere of renewable sources of energy a significant improvement of support instruments (above all, adapting the purchase price of electricity) is needed alongside the intensive implementation of measures to slow growth in electricity consumption. This is also a finding and recommendation of the European Commission (DG TREN). Current purchase prices for some types of qualified producers are even lower than the latest market prices for production in traditional power stations.

3 POTENTIALS

Figure 1 shows envisaged generation by individual types of energy vector and imports and exports of electricity up to 2015. This only relates to power stations connected to the transmission network.

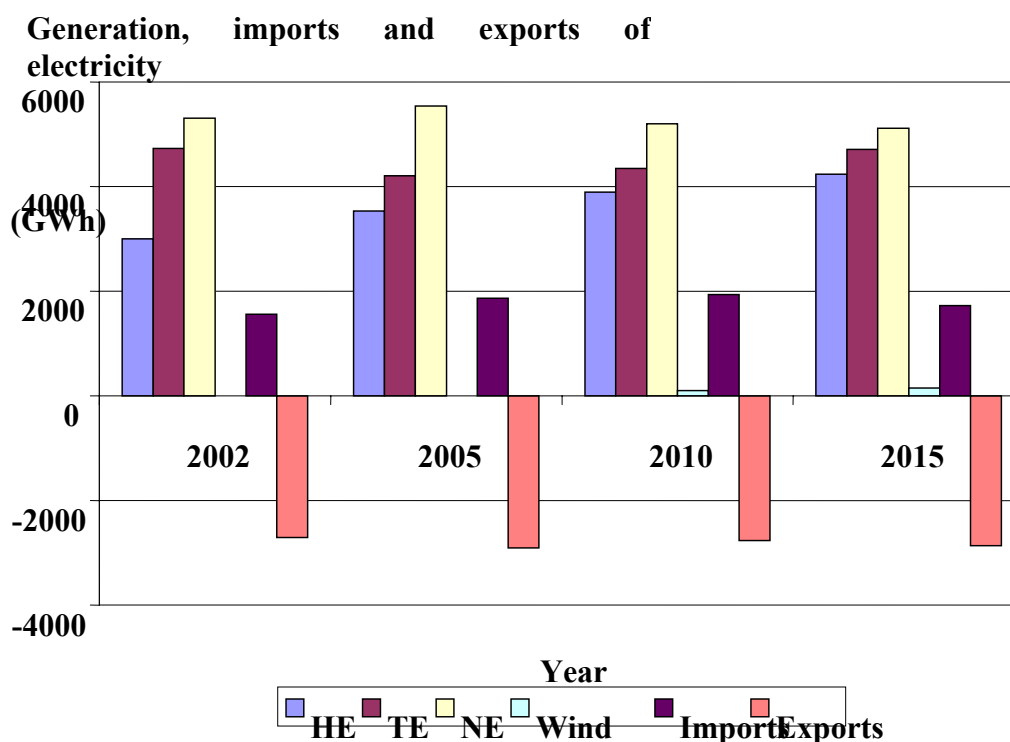


Figure 1: Envisaged annual generation, imports and exports of electricity in the transmission network

Of the new facilities exploiting renewables, priority is given to construction of hydro power plants on the lower Sava, where five flow-pumped storage power plants are planned. Construction of wind farms is also envisaged.

3.1 Projected development of electricity generation from renewables

Intensive use of renewable sources of energy is linked to the challenging goal of achieving a 12 % share of renewables in primary energy and a 33.6 % share of electricity generated from renewables by 2010. Although the figure for 2002 was 32 %, the expected annual growth of around 2 % in electricity consumption will require exploitation of 20–50 % of the currently recorded technical potential for renewables (wind, small HE, biogas, biomass etc.) by 2015, with annual generation of around 430 GWh of electricity. Local generation does not include the output of major wind farms, which due to their connection to the transmission network are dealt with under system production. The framework projection for additional generating capacity (approximately 105 MW by 2015) is shown in Figure 2.

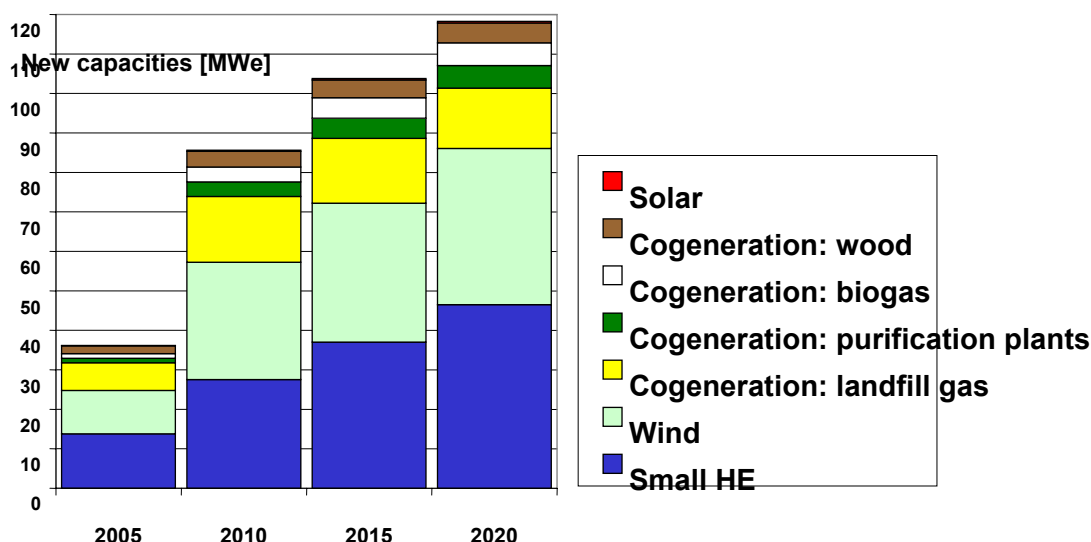


Figure 2: New capacities for local generation of electricity from renewables

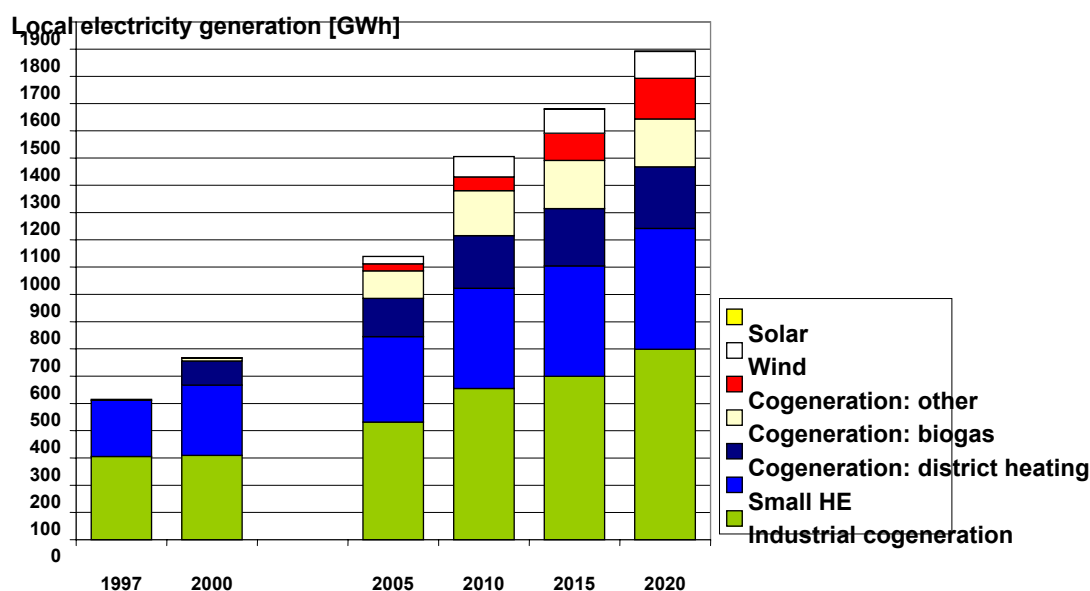


Figure 3: Total local electricity generation: situation, projection to 2020

Total local electricity generation (Figure 3) will increase by approximately 900 GWh by 2015, according to the projection (more than double the 2000 level).

4 TARGETS IN THE REPUBLIC OF SLOVENIA

Energy policy targets in the Republic of Slovenia are set out in the Resolution on the National Energy Programme (OJ RS, No. 57/04).

There are two targets from the sphere of efficient energy consumption and renewable sources of energy, divided into a number of sub-targets. For the sake of transparency, and in view of the major effect of efficient (or inefficient) energy use on the targets stipulating shares of renewables, we shall list them all.

Improving energy efficiency:

- by 2010 increase energy efficiency in industry and the service sector by 10 % compared to 2004,

- by 2010 increase energy efficiency in buildings by 10 % compared to 2004,
- by 2010 increase energy efficiency in the public sector by 15 % compared to 2004,
- by 2010 increase energy efficiency in transport by 10 % compared to 2004,
- double the share of electricity from cogeneration from 800 GWh in 2000 to 1,600 GWh in 2010.

Raising the share of renewable sources of energy in the primary energy balance from 8.8 % in 2002 to 12 % by 2010 and targets in individual spheres:

- increasing the share of renewables in the supply of heat from 22 % in 2002 to 25 % by 2010,
- raising the share of electricity from renewables from 32 % in 2002 to 33.6 % by 2010,
- ensuring up to 2 % share of biofuels for transport by the end of 2005.

Increasing the share of electricity generated from renewable sources of energy to 33.6 % of gross electricity generated by 2010 will require the inclusion of all types of power plants using renewable sources, from large wind farms to micro solar power plants. Total annual electricity generation from new renewable power plants in 2010 will have to be between 1 and 1.5 TWh, depending on generation in large hydroelectric power plants; this will require construction of new renewable power plants with installed power of between 200 and 400 MW.

The targets of the share of electricity from renewables in the Republic of Slovenia, which are also set out in the Annex to the Directive do not at first glance appear high. Taking into account the rapid growth in electricity consumption in the Republic of Slovenia, however, these targets are extremely high and almost unreachable.

Targets by individual types of renewable sources of energy are not specified.

Targets are in line with the national commitments adopted within the framework of the climate change commitments adopted by the Community under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, as specified by the Directive. All the objectives indicated are coordinated with the Strategy for Reducing Greenhouse Gas Emissions.

5 MEASURES FOR THE ACHIEVEMENT OF THE OBJECTIVES

5.1 Legal framework for incentives

5.1.1 Energy Act

The Energy Act (OJ RS, No. 26/05, official consolidated text – EZ-UPB1) defines qualified producers of electricity. Qualified producers are producers that generate electricity in an individual generating facility with a higher-than-average efficiency for heat and electricity cogeneration, or that use renewable energy sources in a manner which is in accordance with environmental protection.

Also important here is the definition of electricity from renewable sources, which is as follows:

- a) electricity generated in power stations that use renewable energy sources exclusively
- b) the proportion of electricity from renewable energy sources generated in combined power stations that also use fossil fuels, and
- c) electricity referred to in Points a) and b) of this indent that is used to fill energy storage systems, without using electricity generated from such systems.

Renewable sources of energy are sources of energy that are preserved in nature and are fully or largely renewable, in particular energy from watercourses, wind and biomass and geothermal and non-accumulated solar energy. Biomass is the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and timber

industries, as well as the biodegradable fraction of industrial and municipal waste, the use of which for energy purposes is permitted by waste management regulations.

The Energy Act also defines the method of promoting electricity generated by qualified producers. The system operator of the electricity distribution or transmission network is responsible for purchasing all electricity from all qualified electricity producers which are connected to its distribution or transmission network at a price set by the Government. The electricity producers referred to in the preceding paragraph may sell all or part of the electricity they generate independently and shall in that case be entitled to payment of a premium for that energy, set by the Government. The premium shall be paid to the producer by the system operator of the distribution or transmission network to whose network the qualified power plant is connected.

Further details on conditions to acquire the status of a qualified producer, including production volume, type of energy source and useful efficiency, shall be prescribed by the Government of the Republic of Slovenia in a separate decree.

5.1.2 Qualified electricity producers

The Decree on the conditions for obtaining the status of qualified electricity producer (OJ RS, Nos. 29/01 and 99/01) sets out types of qualified electricity producers in terms of primary source of electricity and nominal electrical power, conditions for obtaining the status of qualified electricity producer and the procedure for obtaining the status of qualified electricity producer.

Taking into account the maximum potential quantity of electricity generated in one year, qualified power stations shall be divided into the following size classes:

1. micro: up to and including 36 kW nominal installed electrical power,
2. small: over 36 kW and up to and including 1 MW of nominal installed electrical power,
3. medium: over 1 MW and up to and including 10 MW of nominal installed electrical power,
4. large: over 10 MW of nominal installed electrical power.

With regard to the type of energy source, qualified power plants are divided into renewable power plants, combined power plants and thermal power plants.

Conditions for obtaining qualified power plant status are also specified for individual types of qualified power plants. No conditions are prescribed for renewable power plants, with the exception of biomass power plants, which must satisfy the following conditions:

- a) biomass must represent at least 90 % of the fuel used, measured by the lower heating value, in the annual average,
- b) power stations may use biomass as fuel if they operate in accordance with the laws and executive regulations governing waste management and biomass management.

The decision on the status of a qualified producer shall be taken by the minister responsible for energy at the request of the producer. The application must be accompanied by the energy licence, the power plant operating licence, documentation on the satisfying of the conditions under this Decree and proof of the quantity of electricity and heat generated and fuel consumed in the past year. New power plants with a nominal power of up to 1 MW shall submit, instead of an electrical energy permit, a connection licence in accordance with Article 71 of the Energy Act. The application to obtain the status of qualified electricity producer is contained in the annex to the Decree and can be accessed on the homepage of the Official Journal (*Uradni list*).

The Energy Act provides that the status of qualified producers on the electricity market, the rules on purchasing electricity from qualified producers and the purchase price and electricity

premiums for electricity that qualified producers sell independently shall be determined by the Government by means of a decree.

5.1.3 Purchase price and premium

The Decree on the rules for determining prices and purchasing electricity from qualified electricity producers (OJ RS, No. 25/02) sets out the rules and starting points for contractual relations between qualified electricity producers and the operators of the networks to which qualified power plants are connected, and the rules for setting prices and premiums for the purchase of electricity from qualified electricity producers.

The provisions of the Decree apply to electricity producers who have obtained the status of qualified producer, except for qualified producers generating electricity in large hydroelectric plants, large power plants using municipal waste, large district heating plants and medium and large industrial heating plants.

The Decree provides that qualified producers who sell, directly or via an intermediary, all or part of the electricity they generate shall be eligible for a uniform annual premium for this electricity. The uniform annual premium represents the difference between the uniform annual price and the expected average annual price of electricity on the market, and shall be treated in the same way, *mutatis mutandis*, as the uniform annual price for the purchase of electricity from a qualified producer. The operator of a network to whose network a qualified power plant is connected and the qualified producer shall conclude an Agreement covering the purchase of electricity from the qualified producer for a period of ten years. On the basis of the Purchase Agreement, the network operator shall buy electricity at the uniform annual price or pay the qualified producer the uniform annual premium for electricity which the latter has sold independently or via an intermediary.

Uniform annual prices and uniform annual premiums for electricity from qualified producers shall be set at least once a year by the Government of the Republic of Slovenia. In setting uniform annual prices and uniform annual premiums, the Government of the Republic of Slovenia shall take into account the growth in the costs of essential goods published by the Statistical Office of the Republic of Slovenia for the past period, changes in the prices of the basic fuel that is used to generate electricity in qualified power plants, and the expected average annual price of electricity on the market.

Uniform annual prices and uniform annual premiums for an individual qualified power plant shall apply for a period of five years from the start of operation, and shall then be reduced by 5 %. Ten years after the start of operation they shall be reduced by 10 %. The start of operation of a qualified power plant shall be counted as the day that it began to deliver electricity to a public network on the basis of an operating licence.

For qualified power plants receiving a non-refundable state subsidy, for every 10 % of non-refundable state subsidy received, depending on the level of the investment, the uniform annual price or uniform annual subsidy shall be reduced by 5 %. The qualified producer must indicate to the network operator the level of the non-refundable state subsidy received when concluding the Purchase Agreement.

Table 1: Factors in the double tariff statement

	HT	LT
HS	1,40	1.00
MS	1.20	0.85

LS	1.00	0.70
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HS = high season (January, February and December)
 MS = middle season (March, April, October and November)
 LS = low season (May, June, July, August and September)
 HT = higher daily tariff item (working days from Mon to Sat from 6.00 am to 1.00 pm and from 4.00 pm to 10.00 pm; when Summer Time is used, from 7.00 am to 2.00 pm and from 5.00 pm to 11.00 pm)
 LT = lower daily tariff item (working days from Mon to Sat from 10.00 pm to 6.00 am and from 1.00 pm to 4.00 pm; when Summer Time is used, from 11.00 pm to 7.00 am and from 2.00 pm to 5.00 pm)

Table 2: Uniform annual prices and uniform annual premiums for the purchase of electricity from QPs

Type of QPP by primary energy	Size class	Uniform annual price (SIT/kWh)	Uniform annual premium (SIT/kWh)
hydroelectric	up to and including 1 MW	14.75	6.75
	over 1 MW and up to and including 10 MW	14.23	6.23
biomass	up to and including 1 MW	16.69	8.69
	over 1 MW	16.17	8.17
wind	up to and including 1 MW	14.55	6.55
	over 1 MW	14.05	6.05
geothermal		14.05	6.05
solar	up to and including 36 kW	89.67	81.67
	over 36 kW	15.46	7.46
other QPP ⁽¹⁾		28.97	20.97
combined renewable QPPs ⁽²⁾		16.05	8.05
QPPs or heating plants using municipal waste ⁽³⁾	up to and including 1 MW	12.74	4.74
	over 1 MW and up to and including 10 MW	11.87	3.87
district heating plants	up to and including 1 MW	13.90	5.90
	over 1 MW and up to and including 10 MW	13.38	5.38
industrial heating plants ⁽⁴⁾	up to and including 1 MW	12.86	/

- (1) power plants that use as input energy any other form of renewable energy not of fossil or nuclear origin; this group includes QPPs using animal waste biogas
- (2) combinations of listed renewable power plants
- (3) QPPs and heating plants using municipal waste also include landfill gas QPPs and QPPs using gas from municipal purification plants
- (4) the average purchase price for industrial heating plants up to 1 MW applies to all surpluses over and above own consumption which the QP delivers to a public network

Prices and premiums are calculated according to a single tariff or double tariff system. Qualified producers choose the double tariff system voluntarily. In the case of the single tariff system, the price and premium are equal to the uniform annual price or the uniform annual premium in all seasons of the year and at all times of day. In the case of the double tariff system, the price and the premium are fixed by multiplying the uniform annual price or uniform annual premium in different seasons and at different times of day by the factors listed in Table 1. This enables qualified producers who can adapt their operation to achieve a higher price for electricity.

Qualified producers shall not draw up daily schedules for micro and small qualified power plants from which the purchase of electricity takes place on the basis of a decree. Qualified producers shall not pay for non-permitted deviations. It is further determined that costs incurred by the network operator because of this shall be included in priority dispatch costs.

The actual purchase prices of electricity are not set out in the Decree but in the Government Resolution on prices and premiums for the purchase of electricity from qualified electricity producers (OJ RS, No. 25/02). This method allows the Government to correct or increase the price without having to change the Decree itself. Uniform annual prices, which do not include VAT, are shown in Table 2.

The operator of a network to whose network a qualified power plant is connected and the qualified producer shall conclude an Agreement covering the purchase of electricity from the qualified producer for a period of ten years. On the basis of the Purchase Agreement, the network operator shall buy electricity at the uniform annual price or pay the qualified producer a uniform annual premium for electricity which the latter has sold independently or via an intermediary. A sample Agreement is provided in the Annex to the Decree.

5.2 The network

The Energy Act provides that transmission network system operators and distribution network system operators must permit users to access networks in a transparent and impartial manner, according to the principle of regulated access by third parties.

The Energy Act sets out the content of system operating instructions, which also includes technical and other conditions for connection to the network, and provisions on the costs of the technical measures necessary for the connection of new electricity producers. The system operating instructions for an individual network shall be issued by the system operator for that specific network in accordance with its public authorisation. Before their publication the Energy Agency must give its consent thereto.

5.3 Guarantees of origin of electricity

The Decree on the issuing of guarantees of origin of electricity (OJ RS, No. 121/05) sets out the content and method of issuing guarantees of origin of electricity from renewable sources and from cogeneration. This one Decree defines the guarantees of origin of electricity issued in accordance with the provisions of Directives 2001/77/EC and 2004/8/EC.

5.3.1 Guarantees of origin

In the case of electricity generated from renewable sources of energy or in cogeneration of heat and electricity, the electricity producer may request the issuing of a guarantee of origin. A

guarantee of origin can also be requested, with the authorisation of the producer, by a trader, intermediary or agent on the electricity market. Guarantees of origin represent proof that a specific quantity of electricity was generated in a specific generation facility in a specific period by the method stated by the guarantee of origin of electricity.

In principle guarantees of origin are issued in electronic form. They may also be issued in printed form at the request of an electricity producer who does not have the necessary technical capability.

A guarantee of origin shall be issued for the basic unit, which is 1 kWh of electricity. A guarantee may also be issued for several basic units together. The setting of the basic unit at 1 kWh is logical because guarantees of origin will also be issued for micro power plants, while on the other hand it would not be logical to issue a large quantity of guarantees of origin for a larger power plant, hence the provision allowing a single guarantee for several basic units.

A guarantee of origin shall only be issued for electricity generated in a production plant that is in possession of a Declaration stating that it is a facility for the production of electricity from renewable sources of energy, or in an efficient heat and electricity cogeneration facility. Since in Slovenia we have set up a qualified producers mechanism, this is used as the Declaration mentioned above.

Guarantees of origin from renewable sources of energy from effective cogeneration facilities are issued by the Energy Agency.

Guarantees of origin and invoices in the database are free of charge for users. The costs are covered from the operating costs of the Energy Agency.

5.3.2 Database

For the purpose of providing support to the system of issuing guarantees of origin, a suitable central database shall be set up. Responsibility for this lies with the Energy Agency, which is also responsible for issuing and publishing instructions for the use of the database.

Lists which must be included in the database have been defined, while the database may also include other lists if this proves necessary while it is being created. The compulsory lists are as follows: list of generating facilities, including the name of the facility, the nominal electrical power and the energy source, stated separately for renewables and cogeneration, a list of generated electricity by individual generation facilities at the monthly level, a list of holders of guarantees of origin with data on all guarantees held by an individual holder, including information on the State in which the individual guarantee was issued, data on all transfers of ownership of an individual guarantee of origin, a list of redeemed guarantees of origin with all data on the individual guarantee and data on the owner of the redeemed guarantee, and a list of guarantees of origin which have been exported and imported.

Every electricity producer in the Republic of Slovenia that is connected to the public electricity network is obliged to provide regular readings from its electricity generation meters to the system operator of the network to which its generating facility is connected, while the system operator is obliged to enter the generation data from every generating facility in the database of guarantees of origin.

5.3.3 Transfer, redemption, import and export of guarantees of origin

The database will be constructed in such a way that every respective holder of a guarantee of origin may himself transfer his ownership to another person holding an open account in the database. It will only be possible to carry out the procedure in one direction, i.e. from the current holder to the future holder but not vice versa. Transfer of ownership is carried out by the transfer of electronic records of guarantees in the database of guarantees of origin. The method of

transfer of ownership shall be defined by the Energy Agency. The holder of a guarantee of origin may redeem it for the purpose of proving consumption or supply of a specific quantity of electricity from renewables or from an efficient cogeneration facility. Following redemption, all redeemed guarantees are transferred to the list of redeemed guarantees, in accordance with the provisions covering the guarantees database. Redemption is carried out by the Energy Agency as the issuer of guarantees of origin of electricity. The holder of a guarantee of origin may request a written certificate of redemption from the issuer when redeeming the guarantee.

Guarantees of origin of electricity from other EU Member States and third countries issued in accordance with the provisions of Directives 2001/77/EC in 2004/8/EC are also valid in Slovenia, but shall not count towards national quotas for achieving the target share of electricity from renewables.

6 DEVELOPMENT

The share of electricity generated from renewables in terms of total gross consumption of electricity in Slovenia is monitored by the Statistical Office of the Republic of Slovenia using Eurostat methodology. The starting values for Slovenia were defined using a slightly different methodology (threshold output instead of generator output). A number of other European countries are in a similar position.

The share of electricity obtained from renewable sources of origin decreases after 2000, as shown by Table 3, because electricity consumption is increasing more rapidly than generation. Despite the changeable output of hydroelectric plants (2004 was above average), a long-term trend is evident – a gradual increase in the generation of electricity from renewables (besides the increase in generation from hydro energy, there is a considerable increase in generation from wood biomass and landfill gas).

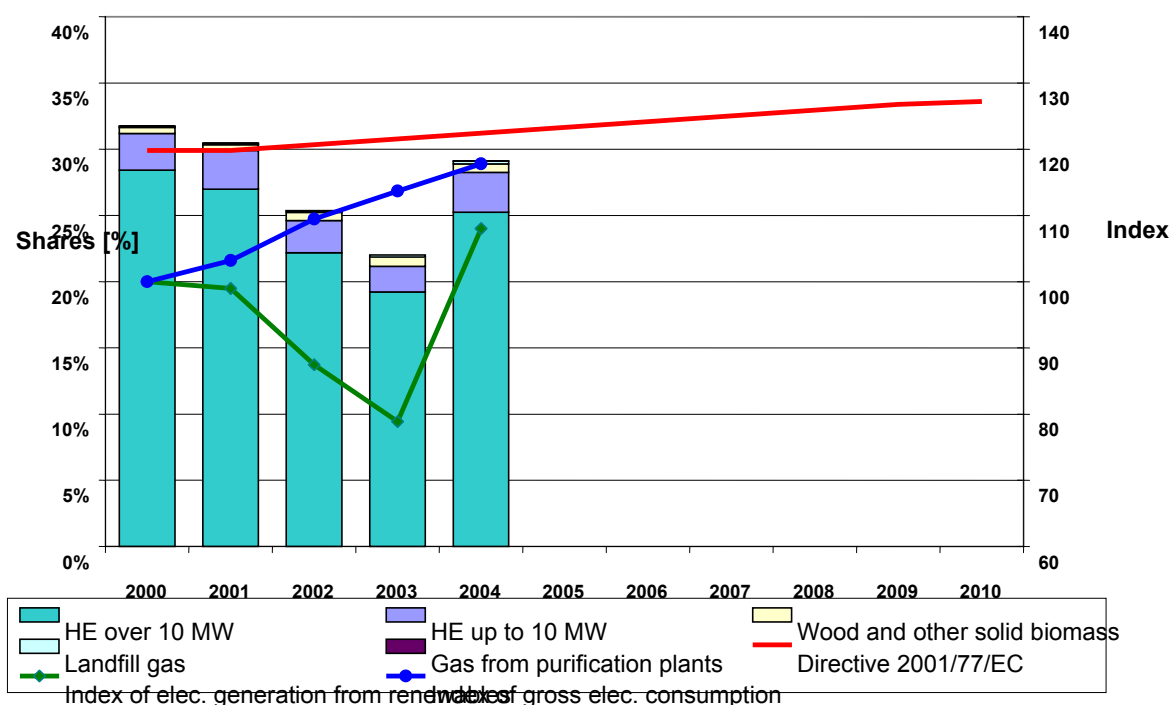


Figure 4: Share of electricity generation from renewables in gross energy consumption

Table 3: Renewables in electricity generation and the primary energy balance

	2000	2001	2002	2003	2004	2004/2003	2004/2002	2004/2000
						AVE. ANNUAL GROWTH		
Elec. generation from renewables [GWh]	3.905	3.865	3.415	3.079	4.218	37,0%	11,1%	1,9%
HE up to 10 MW	340	371	327	268	436	62,7%	15,5%	6,4%
HE over 10 MW	3.495	3.425	2.986	2.690	3.658	36,0%	10,7%	1,1%
Wood and other solid biomass	58	54	84	98	93	-5,1%	5,2%	12,6%
Landfill gas	9	12	16	22	28	27,3%	32,3%	32,8%
Gas from purification plants	3	3	2	1	3	200,0%	22,5%	1,6%
Gross elec. consumption [GWh]	12.305	12.694	13.466	15.985	14.462	-3,8%	3,7%	-4,2%
Share of elec. from renewables [%]	31,7%	30,4%	25,4%	22,0%	29,1%	7,1%	1,9%	-1,3%
Domestic generation [in million toe]	0,760	0,777	0,750	0,723	0,832	15,2%	5,4%	2,3%
Hydro and wind energy	0,330	0,326	0,285	0,254	0,352	38,4%	11,2%	1,7%
Other renewable sources	0,430	0,450	0,465	0,468	0,480	2,6%	1,7%	2,8%
Total primary energy consumption [million toe]	6,417	6,701	6,843	6,893	7,126	3,4%	2,0%	-2,7%
Share of renewables in total PE consumption	11,8%	11,6%	11,0%	10,5%	11,7%	1,2%	0,4%	-0,1%

Statistical data do not show the shares or quantities of electricity generated in solar power plants. In this sphere, despite everything, positive trends can be observed, since five solar power plants were built in 2005 and are now connected to the public network. Before this there was only one power plant of this type.

The share of renewables in the primary balance in 2004 was 11.7 %, or 1.2 percentage points higher than the year before. With regard to the situation in 2000 (11.8%), there is a clear long-term tendency towards reduction of the share of renewable sources of energy even in the primary balance despite an increase in the use of renewables (2.7 % average annual growth of use of renewables in the period 2000–2004).

7 BARRIERS

7.1 Common barriers

7.1.1 Purchase price mechanism

The basic barrier causing slow development of electricity generation from renewables are low purchase prices. It is evident from European Commission report COM(2005) 627 that prices in the Republic of Slovenia are among the lowest in the EU-25. In the case of biogas power plants, for which the price is relatively high, we can see that a high purchase price, despite other barriers, guarantees suitable development or the building of power plants.

Another barrier is the guaranteed purchase period provided by current legislation in the Republic of Slovenia, which, at ten years, is too short.

7.2 Barriers by sectors

7.2.1 Hydro

The biggest barriers in the case of small hydroelectric plants are the very lengthy procedures necessary in order to obtain concessions to use water for power purposes.

There is a fear that these procedures will become even lengthier as a result of the application of Directive 60/2000/EC.

7.2.2 Wind

In the case of wind farms, the opposition of certain sectors of the public is the most obvious problem. This applies above all to the various environmental protection organisations operating at the local or national level.

7.2.3 Wood biomass

In the use of wood biomass for the production of energy, particularly electricity, problems are caused by other potential users of wood biomass, in particular manufacturers of wooden panels.

Another serious barrier is the unsuitability of the fixed purchase prices mechanism. The reason it is unsuitable is that the price of wood biomass on the market is changing (increasing). We consider that the purchase price of electricity from wood biomass power plants should depend on the price of wood biomass on the market.

7.2.4 Biogas

In the case of biogas there is opposition from the local community, and in particular from a section of those living in the area. This is particularly market in cases when a biogas power station in which various types of biological waste will predominate is proposed in a location where no other facility has previously existed. If a biogas plant is located on a livestock farm, this problem does not usually occur.

7.2.5 Geothermal

There are two main barriers to the use of geothermal energy to generate electricity: lack of knowledge about the technology and the high price of wells, particularly test wells. We consider that in order to use geothermal energy to generate electricity, a mechanism for the financing of test wells would need to be introduced. For the construction of the power plant itself, the fixed purchase price is suitable.

7.2.6 Solar

Solar power plants (photovoltaics) are very suitable for use in residential buildings. Investors are usually natural persons without much experience of investments. The relatively high investment costs represent a barrier. In order to get over this barrier, a combination of a fixed purchase price and an investment subsidy would probably be necessary.

Another barrier likewise affecting natural persons is taxation. All income from the sale of electricity is included in the income tax basis, which is relatively highly taxed in comparison to other Member States.

7.3 Survey of investors

On the basis of a survey of investors and potential investors, we carried out an analysis of barriers. The main barriers to the realisation of plans are risks (76 % of respondents cite risks as a barrier), unsatisfactory economic effects (70 %), demanding administrative procedures (66 %) and the availability of funds for projects of this type (64 %). There are fewer technical barriers (49 %), difficulties relating to availability of personnel (48 %) and difficulties in placing heat or electricity (36 %), while organisational barriers within enterprises are fewest of all (30 %).

Only 6 of the respondents manage all risks without difficulties. The largest number encounter risks relating to the purchase prices of energy products (53 %), while fewer encountered other risks: purchase prices of electricity (27 %), prices or quantities of emissions coupons (22.4 %),

reserves in the case of failure of electricity generation (18 %) and the sale of thermal energy (18 %). They are less sensitive to operating risks (16 %) and least sensitive to risks in implementing investment projects (13 %).

Only 11 respondents do not have difficulties with the economy of projects. Barriers to projects are: long return on investment period (35 % of respondents), high investment (29%), low profitability (23 %), high price of fuel (20 %).

Administrative barriers are also of key importance, since procedures are too long (24 %) and also complicated (16 %). Respondents also cited difficulties relating to knowledge of procedures (32 %). The largest number mention barriers in procedures for obtaining environmental permits (19 %), procedures for obtaining qualified producer status (16 %) and procedures for connection to the distribution network (15 %); 5 respondents (8 %) stated that procedures had come to a halt or that they had become involved in a dispute.

Only 14 respondents could provide funds for the project without major difficulties. The fact that they prefer to devote funds to projects within their basic activity than invest in a power plant is a barrier to the implementation of the project in 30 % of cases; the absence of purpose-specific loans is a barrier for 19 % of respondents, 17 % do not have the funds, the same number have problems finding a strategic partner willing to invest and to supply them with energy on a contractual basis.

In other fields the following barriers are also frequent: low heat consumption or no possibility of selling heat (24 %), no trained personnel for projects of this type (24 %) or suitable personnel too busy (18 %), priority given to projects relating to the basic activity (14 %). Investors lack information about: the situation on the equipment market (27 %), administrative procedures (25 %), state financial incentives and technological solutions (28 %).

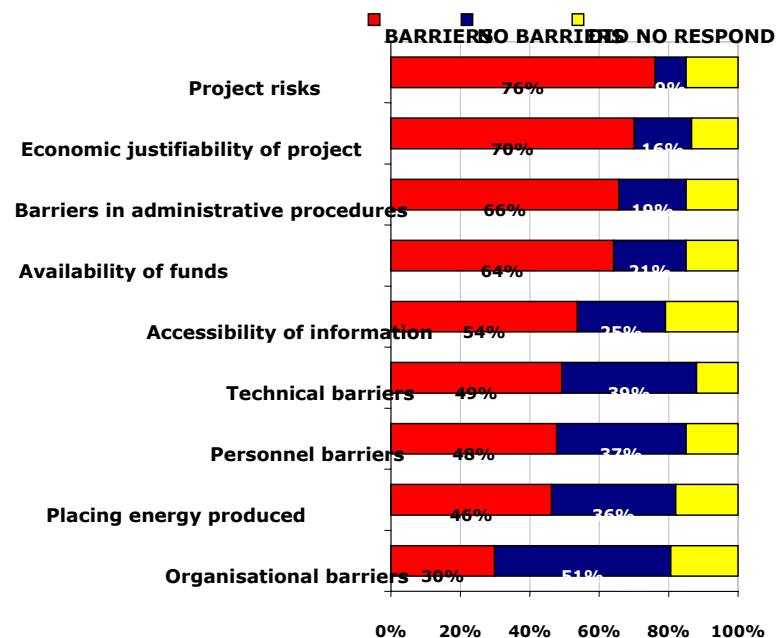


Figure 5: Barriers in the implementation of projects

The proposals submitted also showed that the majority of barriers in administrative procedures could be eliminated by means of simplification or abbreviation. Several respondents also proposed regulating procedures in such a way as to make it possible to obtain permits with one application and in one place. Most of all they would like a guide to administrative procedures to be published – this was the most frequently circles response in the entire questionnaire.

8 CONCLUSION

Article 3 of the Directive provides that measures to encourage the greater consumption of electricity generated from renewable sources must be proportionate to the target that is to be achieved.

As a result of insufficient development in recent years, in order to achieve binding targets in the sphere of renewable sources of energy a significant improvement of support instruments (above all, adapting the purchase price of electricity) is needed alongside the intensive implementation of measures to slow growth in electricity consumption. This is also a finding and recommendation of the European Commission (DG TREN). Current purchase prices for some types of qualified producers are even lower than the latest market prices for generation in traditional power stations.

9 REFERENCES

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